



# BATTERIES

**DURACELL®**

ALKALINE BATTERIES

|                                                                                     | Type | Code               | Description                                     |
|-------------------------------------------------------------------------------------|------|--------------------|-------------------------------------------------|
|  | AAA  | MM DUR LR03MN2400  | Duracell Plus Alkaline Batteries AAA Pack 4 pcs |
|  | AA   | MM DUR LR6MN1500   | Duracell Plus Alkaline Batteries AA Pack 4 pcs  |
|  | C    | MM DUR LR14MN1400  | Duracell Plus Alkaline Batteries C Pack 2 pcs   |
|  | D    | MM DUR LR20MN1300  | Duracell Plus Alkaline Batteries D Pack 2 pcs   |
|  | 4.5V | MM DUR 3LR12MN1203 | Duracell Plus Alkaline Battery 4.5V             |
|  | 9V   | MM DUR 6LR61MN1604 | Duracell Plus Alkaline Battery 9V               |

**TUDOR****TUDOR HIGH TECH**

| Code          | Performance |            | Dimensions |        |        |        | Technical Features |           |                  |
|---------------|-------------|------------|------------|--------|--------|--------|--------------------|-----------|------------------|
|               | Capacity Ah | CCA A (En) | BOX Type   | L (mm) | W (mm) | H (mm) | Pole +             | Pole Type | Base Connections |
| MM TUD TA472  | 47          | 450        | LB1        | 207    | 175    | 175    | R                  | 1         | B13              |
| MM TUD TA530  | 53          | 540        | L01        | 207    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TA602  | 60          | 600        | LB2        | 242    | 175    | 175    | R                  | 1         | B13              |
| MM TUD TA640  | 64          | 640        | L02        | 242    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TA722  | 72          | 720        | LB3        | 278    | 175    | 175    | R                  | 1         | B13              |
| MM TUD TA770  | 77          | 760        | L03        | 278    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TA852  | 85          | 800        | LB4        | 315    | 175    | 175    | R                  | 1         | B13              |
| MM TUD TA1000 | 100         | 900        | L05        | 353    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TA1050 | 105         | 850        | LH4        | 313    | 175    | 205    | R                  | 1         | B13              |
| MM TUD TA386  | 38          | 300        | B19        | 187    | 127    | 220    | R                  | 3 (small) | Korean B1        |
| MM TUD TA387  | 38          | 300        | B19        | 187    | 127    | 220    | L                  | 3 (small) | Korean B1        |
| MM TUD TA456  | 45          | 390        | B24        | 237    | 127    | 227    | R                  | 3 (small) | Korean B1        |
| MM TUD TA457  | 45          | 390        | B24        | 237    | 127    | 227    | L                  | 3 (small) | Korean B1        |
| MM TUD TA654  | 65          | 580        | D23        | 230    | 173    | 222    | R                  | 1         | Korean B1        |
| MM TUD TA655  | 65          | 580        | D23        | 230    | 173    | 222    | L                  | 1         | Korean B1        |
| MM TUD TA754  | 75          | 630        | D26        | 270    | 173    | 222    | R                  | 1         | Korean B1        |
| MM TUD TA755  | 75          | 630        | D26        | 270    | 173    | 222    | L                  | 1         | Korean B1        |

**TUDOR****TUDOR TECHNICA**

| Code          | Performance |            | Dimensions |        |        |        | Technical Features |           |                  |
|---------------|-------------|------------|------------|--------|--------|--------|--------------------|-----------|------------------|
|               | Capacity Ah | CCA A (En) | BOX Type   | L (mm) | W (mm) | H (mm) | Pole +             | Pole Type | Base Connections |
| MM TUD TB440A | 44          | 360        | L01        | 207    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB356  | 35          | 240        | B19        | 187    | 127    | 220    | R                  | 3         | B00              |
| MM TUD TB357  | 35          | 240        | B19        | 187    | 127    | 220    | R                  | 3         | B0               |
| MM TUD TB357  | 35          | 240        | B19        | 187    | 127    | 220    | R                  | 3         | B00              |
| MM TUD TB440  | 44          | 400        | L00        | 175    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB442  | 44          | 420        | LB1        | 207    | 175    | 175    | R                  | 1         | B13/B14          |
| MM TUD TB450  | 45          | 330        | E02        | 220    | 135    | 225    | R                  | 1         | B01              |
| MM TUD TB451  | 45          | 330        | E02        | 220    | 135    | 225    | L                  | 1         | B01              |
| MM TUD TB454  | 45          | 300        | B24        | 237    | 127    | 227    | R                  | 1         | B00              |
| MM TUD TB455  | 45          | 300        | B24        | 237    | 127    | 227    | L                  | 1         | B00              |
| MM TUD TB456  | 45          | 300        | B24        | 237    | 127    | 227    | R                  | 3         | B00              |
| MM TUD TB457  | 45          | 300        | B24        | 237    | 127    | 227    | L                  | 3         | B00              |
| MM TUD TB500  | 50          | 450        | L01        | 207    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB501  | 50          | 450        | L01        | 207    | 175    | 190    | L                  | 1         | B13              |
| MM TUD TB504  | 50          | 360        | D20        | 200    | 173    | 222    | R                  | 1         | Korean B1        |
| MM TUD TB505  | 50          | 360        | D20        | 200    | 173    | 222    | L                  | 1         | B00              |
| MM TUD TB542  | 54          | 520        | LB2        | 242    | 175    | 175    | R                  | 1         | B13/B14          |
| MM TUD TB604  | 60          | 390        | D23        | 230    | 173    | 222    | R                  | 1         | B00              |
| MM TUD TB605  | 60          | 390        | D23        | 230    | 173    | 222    | L                  | 1         | B00              |
| MM TUD TB620  | 62          | 540        | L02        | 242    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB621  | 62          | 540        | L02        | 242    | 175    | 190    | L                  | 1         | B13              |
| MM TUD TB704  | 70          | 540        | D26        | 270    | 173    | 222    | R                  | 1         | B09              |
| MM TUD TB705  | 70          | 540        | D26        | 270    | 173    | 222    | L                  | 1         | B09              |
| MM TUD TB712  | 71          | 670        | LB3        | 278    | 175    | 175    | R                  | 1         | B13/B14          |
| MM TUD TB740  | 74          | 680        | L03        | 278    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB741  | 74          | 680        | L03        | 278    | 175    | 190    | L                  | 1         | B13              |
| MM TUD TB800  | 80          | 700        | L04        | 315    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB802  | 80          | 700        | LB4        | 315    | 175    | 175    | R                  | 1         | B13              |
| MM TUD TB852  | 85          | 760        | LB5        | 353    | 175    | 175    | R                  | 1         | B13              |
| MM TUD TB950  | 95          | 800        | L05        | 353    | 175    | 190    | R                  | 1         | B13              |
| MM TUD TB1000 | 100         | 720        | LH4        | 313    | 175    | 295    | R                  | 1         | B13              |
| MM TUD TB1004 | 100         | 720        | D31        | 306    | 173    | 222    | R                  | 1         | Korean B1        |
| MM TUD TB1005 | 100         | 720        | D31        | 306    | 173    | 222    | L                  | 1         | Korean B1        |

**TUDOR****TUDOR STANDARD**

| Code         | Performance    |            | Dimensions  |           |           |           | Technical Features |           |                     |
|--------------|----------------|------------|-------------|-----------|-----------|-----------|--------------------|-----------|---------------------|
|              | Capacity<br>Ah | CCA A (En) | BOX<br>Type | L<br>(mm) | W<br>(mm) | H<br>(mm) | Pole +             | Pole Type | Base<br>Connections |
| MM TUD TC400 | 40             | 320        | L00         | 175       | 175       | 190       | R                  | 1         | B13                 |
| MM TUD TC440 | 44             | 360        | L01         | 207       | 175       | 190       | R                  | 1         | B13                 |
| MM TUD TC550 | 55             | 460        | LB2         | 242       | 175       | 190       | R                  | 1         | B13                 |
| MM TUD TC700 | 70             | 640        | L03         | 278       | 175       | 190       | R                  | 1         | B13                 |
| MM TUD TC900 | 90             | 720        | L05         | 278       | 175       | 190       | R                  | 1         | B13                 |

**EXIDE**  
BATTERIES**EXIDE PREMIUM**

| Code          | Performance    |            | Dimensions  |           |           |           | Technical Features |           |                     |
|---------------|----------------|------------|-------------|-----------|-----------|-----------|--------------------|-----------|---------------------|
|               | Capacity<br>Ah | CCA A (En) | BOX<br>Type | L<br>(mm) | W<br>(mm) | H<br>(mm) | Pole +             | Pole Type | Base<br>Connections |
| MM EXD EA386  | 38             | 300        | B19         | 187       | 127       | 220       | R                  | 3 (small) | Korean B1           |
| MM EXD EA387  | 38             | 300        | B19         | 187       | 127       | 220       | L                  | 3 (small) | Korean B1           |
| MM EXD EA456  | 45             | 390        | B24         | 237       | 127       | 227       | R                  | 3 (small) | Korean B1           |
| MM EXD EA457  | 45             | 390        | B24         | 237       | 127       | 227       | L                  | 3 (small) | Korean B1           |
| MM EXD EA472  | 47             | 450        | LB1         | 207       | 175       | 175       | 0                  | R         | B13                 |
| MM EXD EA530  | 53             | 540        | L01         | 207       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EA602  | 60             | 600        | LB2         | 242       | 175       | 175       | R                  | 1         | B13                 |
| MM EXD EA640  | 64             | 640        | L02         | 242       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EA654  | 65             | 580        | D23         | 230       | 173       | 222       | R                  | 1         | Korean B1           |
| MM EXD EA655  | 65             | 580        | D23         | 230       | 173       | 222       | L                  | 1         | Korean B1           |
| MM EXD EA722  | 72             | 720        | LB3         | 278       | 175       | 175       | R                  | 1         | B13                 |
| MM EXD EA754  | 75             | 630        | D26         | 270       | 173       | 222       | R                  | 1         | Korean B1           |
| MM EXD EA755  | 75             | 630        | D26         | 270       | 173       | 222       | L                  | 1         | Korean B1           |
| MM EXD EA770  | 77             | 760        | L03         | 278       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EA852  | 85             | 800        | LB4         | 315       | 175       | 175       | R                  | 1         | B13                 |
| MM EXD EA1000 | 100            | 900        | L05         | 353       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EA1005 | 100            | 850        | D31         | 306       | 173       | 222       | R                  | 1         | Korean B1           |

**EXIDE**  
BATTERIES**EXIDE EXCELL**

| Code          | Performance    |            | Dimensions  |           |           |           | Technical Features |           |                     |
|---------------|----------------|------------|-------------|-----------|-----------|-----------|--------------------|-----------|---------------------|
|               | Capacity<br>Ah | CCA A (En) | BOX<br>Type | L<br>(mm) | W<br>(mm) | H<br>(mm) | Pole +             | Pole Type | Base<br>Connections |
| MM EXD EB356  | 35             | 240        | B19         | 187       | 127       | 220       | R                  | 3         | B00                 |
| MM EXD EB357  | 35             | 240        | B19         | 187       | 127       | 220       | R                  | 3         | B00                 |
| MM EXD EB440  | 44             | 400        | L00         | 175       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB440A | 44             | 360        | L01         | 207       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB442  | 44             | 420        | LB1         | 207       | 175       | 175       | R                  | 1         | B13/B14             |
| MM EXD EB450  | 45             | 330        | E02         | 220       | 135       | 225       | R                  | 1         | B01                 |
| MM EXD EB451  | 45             | 330        | E02         | 220       | 135       | 225       | L                  | 1         | B01                 |
| MM EXD EB454  | 45             | 300        | B24         | 237       | 127       | 227       | R                  | 1         | B00                 |
| MM EXD EB455  | 45             | 300        | B24         | 237       | 127       | 227       | L                  | 1         | B00                 |
| MM EXD EB456  | 45             | 300        | B24         | 237       | 127       | 227       | R                  | 3         | B00                 |
| MM EXD EB457  | 45             | 300        | B24         | 237       | 127       | 227       | L                  | 3         | B00                 |
| MM EXD EB500  | 50             | 450        | L01         | 207       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB501  | 50             | 450        | L01         | 207       | 175       | 190       | L                  | 1         | B13                 |
| MM EXD EB504  | 50             | 360        | D20         | 200       | 173       | 222       | R                  | 1         | Korean B1           |
| MM EXD EB505  | 50             | 360        | D20         | 200       | 173       | 222       | L                  | 1         | B00                 |
| MM EXD EB542  | 54             | 520        | LB2         | 242       | 175       | 175       | R                  | 1         | B13/B14             |
| MM EXD EB604  | 60             | 390        | D23         | 230       | 173       | 222       | R                  | 1         | B00                 |
| MM EXD EB605  | 60             | 390        | D23         | 230       | 173       | 222       | L                  | 1         | B00                 |
| MM EXD EB620  | 62             | 540        | L02         | 242       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB621  | 62             | 540        | L02         | 242       | 175       | 190       | L                  | 1         | B13                 |
| MM EXD EB704  | 70             | 540        | D26         | 270       | 173       | 222       | R                  | 1         | B09                 |
| MM EXD EB705  | 70             | 540        | D26         | 270       | 173       | 222       | L                  | 1         | B09                 |
| MM EXD EB712  | 71             | 670        | LB3         | 278       | 175       | 175       | R                  | 1         | B13/B14             |
| MM EXD EB740  | 74             | 680        | L03         | 278       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB741  | 74             | 680        | L03         | 278       | 175       | 190       | L                  | 1         | B13                 |
| MM EXD EB800  | 80             | 700        | L04         | 315       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB802  | 80             | 700        | LB4         | 315       | 175       | 175       | R                  | 1         | B13                 |
| MM EXD EB852  | 85             | 760        | LB5         | 353       | 175       | 175       | R                  | 1         | B13                 |
| MM EXD EB950  | 95             | 800        | L05         | 353       | 175       | 190       | R                  | 1         | B13                 |
| MM EXD EB1000 | 100            | 720        | LH4         | 313       | 175       | 295       | R                  | 1         | B13                 |
| MM EXD EB1004 | 100            | 720        | D31         | 306       | 173       | 222       | R                  | 1         | Korean B1           |
| MM EXD EB1005 | 100            | 720        | D31         | 306       | 173       | 222       | L                  | 1         | Korean B1           |



## EXIDE CLASSIC



| Code         | Performance |            | Dimensions |        |        |        | Technical Features |           |                  |
|--------------|-------------|------------|------------|--------|--------|--------|--------------------|-----------|------------------|
|              | Capacity Ah | CCA A (En) | BOX Type   | L (mm) | W (mm) | H (mm) | Pole +             | Pole Type | Base Connections |
| MM EXD EC400 | 40          | 320        | L00        | 175    | 175    | 190    | R                  | 1         | B13              |
| MM EXD EC440 | 44          | 360        | L01        | 207    | 175    | 190    | R                  | 1         | B13              |
| MM EXD EC550 | 55          | 460        | LB2        | 242    | 175    | 190    | R                  | 1         | B13              |
| MM EXD EC700 | 70          | 640        | L03        | 278    | 175    | 190    | R                  | 1         | B13              |
| MM EXD EC900 | 90          | 720        | L05        | 278    | 175    | 190    | R                  | 1         | B13              |



## EXIDE AGM



| Code         | Volt | Capacity at 20 h (ah) | CCA | Pole (+) | Length (mm) | Width (mm) | Hight (mm) | Weight (kg) |
|--------------|------|-----------------------|-----|----------|-------------|------------|------------|-------------|
| MM EXD EK700 | 12   | 70                    | 760 | R        | 278         | 175        | 190        | 20,90       |
| MM EXD EK800 | 12   | 80                    | 800 | R        | 315         | 175        | 190        | 23,90       |
| MM EXD EK900 | 12   | 90                    | 900 | R        | 353         | 175        | 190        | 26,80       |



## EXIDE GEL



| Code           | Volt | Capacity at 20 h (ah) | CCA  | Pole (+) | Length (mm) | Width (mm) | Hight (mm) | Weight (kg) |
|----------------|------|-----------------------|------|----------|-------------|------------|------------|-------------|
| MM EXD G 60    | 12   | 60                    | 510  | R        | 278         | 175        | 190        | 21,2        |
| MM EXD G 80    | 12   | 80                    | 640  | R        | 353         | 175        | 190        | 26,8        |
| MM EXD G 85    | 12   | 85                    | 510  | L        | 330         | 171        | 236        | 30,0        |
| MM EXD G 110   | 12   | 110                   | 760  | -        | 286         | 269        | 230        | 38,7        |
| MM EXD G 120   | 12   | 120                   | 850  | L        | 513         | 189        | 223        | 40,7        |
| MM EXD G 120S  | 12   | 120                   | 750  | R        | 345         | 175        | 290        | 40,5        |
| MM EXD G 140   | 12   | 140                   | 1000 | L        | 513         | 223        | 225        | 47,8        |
| MM EXD G 210   | 12   | 210                   | 1200 | L        | 518         | 276        | 242        | 70,0        |
| MM EXD G 180/6 | 6    | 196                   | 900  | R        | 244         | 190        | 275        | 29,0        |
| MM EXD G 200/6 | 6    | 200                   | 950  | R        | 244         | 190        | 275        | 32,0        |



## YUMICRON 12V BATTERIES



YB16CL-B



YB30CL-B

| Code            | Battery Type | Capacity AH (10H-R) | Dimensions – Inches<br>(± 1/16 in) |        |        | Dimensions – Millimeters<br>(± 2 mm) |     |       |
|-----------------|--------------|---------------------|------------------------------------|--------|--------|--------------------------------------|-----|-------|
|                 |              |                     | L                                  | W      | H      | L                                    | W   | H     |
| MM YUA YB16CL-B | YB16CL-B     | 19                  | 6 7/8                              | 4      | 6 7/8  | 175                                  | 100 | 175   |
| MM YUA YB30CL-B | YB30CL-B     | 30                  | 6 5/8                              | 5 3/16 | 7 9/16 | 168                                  | 132 | 192.2 |



## YUMICRON 12V BATTERIES

| Code                              | Battery Type               | Capacity<br>AH (10H-R) | Dimensions – Inches<br>(± 1/16 in) |         |         | Dimensions – Millimeters<br>(± 2 mm) |      |     |
|-----------------------------------|----------------------------|------------------------|------------------------------------|---------|---------|--------------------------------------|------|-----|
|                                   |                            |                        | L                                  | W       | H       | L                                    | W    | H   |
| MM YUA YB2.5L-C                   | YB2.5L-C                   | 2.5                    | 3 3/16                             | 2 3/4   | 4 1/8   | 80                                   | 70   | 105 |
| MM YUA YB2.5L-C-1                 | YB2.5L-C-1                 | 2.5                    | 3 3/16                             | 2 3/4   | 4 1/8   | 80                                   | 70   | 105 |
| MM YUA YB3L-A                     | YB3L-A                     | 3                      | 3 7/8                              | 2 1/4   | 4 3/8   | 98                                   | 56   | 110 |
| MM YUA YB3L-B                     | YB3L-B                     | 3                      | 3 7/8                              | 2 1/4   | 4 3/8   | 98                                   | 56   | 110 |
| MM YUA YB4L-A                     | YB4L-A                     | 4                      | 4 3/4                              | 2 3/4   | 3 5/8   | 120                                  | 70   | 92  |
| MM YUA YB4L-B                     | YB4L-B                     | 4                      | 4 3/4                              | 2 3/4   | 3 5/8   | 120                                  | 70   | 92  |
| MM YUA YB5L-B                     | YB5L-B                     | 5                      | 4 3/4                              | 2 3/8   | 5 1/8   | 120                                  | 60   | 130 |
| MM YUA YB7-A                      | YB7-A                      | 8                      | 5 5/16                             | 3       | 5 1/4   | 135                                  | 75   | 133 |
| MM YUA YB7B-B                     | YB7B-B                     | 7                      | 6                                  | 2 3/8   | 5 1/8   | 150                                  | 60   | 130 |
| MM YUA YB7C-A                     | YB7C-A                     | 8                      | 5 1/8                              | 3 9/16  | 4 1/2   | 130                                  | 90   | 114 |
| MM YUA YB7L-B                     | YB7L-B                     | 8                      | 5 5/16                             | 3       | 5 1/4   | 135                                  | 75   | 133 |
| MM YUA YB9A-A                     | YB9A-A                     | 9                      | 5 5/16                             | 3       | 6 1/8   | 135                                  | 75   | 155 |
| MM YUA YB9L-A2                    | YB9L-A2                    | 9                      | 5 5/16                             | 3       | 5 1/2   | 135                                  | 75   | 139 |
| MM YUA YB9-B                      | YB9-B                      | 9                      | 5 5/16                             | 3       | 5 1/2   | 135                                  | 75   | 139 |
| MM YUA YB9L-B                     | YB9L-B                     | 9                      | 5 5/16                             | 3       | 5 1/2   | 135                                  | 75   | 139 |
| MM YUA YB10A-A2                   | YB10A-A2                   | 11                     | 5 5/16                             | 3 9/16  | 6 1/8   | 135                                  | 90   | 155 |
| MM YUA YB10L-A2                   | YB10L-A2                   | 11                     | 5 5/16                             | 3 9/16  | 5 3/4   | 135                                  | 90   | 145 |
| MM YUA YB10L-B                    | YB10L-B                    | 11                     | 5 5/16                             | 3 9/16  | 5 3/4   | 135                                  | 90   | 145 |
| MM YUA YB10L-B2                   | YB10L-B2                   | 11                     | 5 5/16                             | 3 9/16  | 5 3/4   | 135                                  | 90   | 145 |
| MM YUA YB12A-A                    | YB12A-A                    | 12                     | 5 5/16                             | 3 3/16  | 6 5/16  | 134                                  | 80   | 160 |
| MM YUA YB12A-A <sup>W/S</sup> •   | YB12A-A <sup>W/S</sup> •   | 12                     | 5 5/16                             | 3 3/16  | 6 5/16  | 134                                  | 80   | 160 |
| MM YUA YB12A-A <sup>W/TA</sup> ** | YB12A-A <sup>W/TA</sup> ** | 12                     | 5 5/16                             | 3 3/16  | 6 5/16  | 134                                  | 80   | 160 |
| MM YUA YB12AL-A                   | YB12AL-A                   | 12                     | 5 5/16                             | 3 3/16  | 6 5/16  | 134                                  | 80   | 160 |
| MM YUA YB12AL-A2*                 | YB12AL-A2*                 | 12                     | 5 5/16                             | 3 3/16  | 6 5/16  | 134                                  | 80   | 160 |
| MM YUA YB12A-B                    | YB12A-B                    | 12                     | 5 5/16                             | 3 3/16  | 6 5/16  | 134                                  | 80   | 160 |
| MM YUA YB12B-B2                   | YB12B-B2                   | 12                     | 6 5/16                             | 3 9/16  | 5 1/8   | 160                                  | 90   | 130 |
| MM YUA YB12C-A                    | YB12C-A                    | 12                     | 5 5/16                             | 3 9/16  | 6 7/8   | 134                                  | 80   | 175 |
| MM YUA YB14-A2                    | YB14-A2                    | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA YB14A-A1                   | YB14A-A1                   | 14                     | 5 5/16                             | 3 1/2   | 6 15/16 | 134                                  | 89   | 176 |
| MM YUA YB14A-A2                   | YB14A-A2                   | 14                     | 5 5/16                             | 3 1/2   | 6 15/16 | 134                                  | 89   | 176 |
| MM YUA YB14L-A1                   | YB14L-A1                   | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA YB14L-A2                   | YB14L-A2                   | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA YB14L-A2 <sup>W/S</sup> •  | YB14L-A2 <sup>W/S</sup> •  | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA YB14L-B2                   | YB14L-B2                   | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA YB14-B2                    | YB14-B2                    | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA SYB14L-A2 ♦                | SYB14L-A2 ♦                | 14                     | 5 5/16                             | 3 1/2   | 6 9/16  | 134                                  | 89   | 166 |
| MM YUA YB16AL-A2                  | YB16AL-A2                  | 16                     | 8 1/8                              | 2 13/16 | 6 7/16  | 207                                  | 71.5 | 164 |
| MM YUA HYB16A-AB                  | HYB16A-AB                  | 16                     | 6                                  | 3 5/8   | 7 1/16  | 151                                  | 91   | 180 |
| MM YUA YB16-B                     | YB16-B                     | 19                     | 6 7/8                              | 4       | 6 1/8   | 175                                  | 100  | 155 |
| MM YUA YB16-B-CX                  | YB16-B-CX                  | 19                     | 6 7/8                              | 4       | 6 1/8   | 175                                  | 100  | 155 |
| MM YUA YB16HL-A-CX                | YB16HL-A-CX                | 19                     | 6 7/8                              | 4       | 6 1/8   | 175                                  | 100  | 155 |
| MM YUA YB16L-B                    | YB16L-B                    | 19                     | 6 7/8                              | 4       | 6 1/8   | 175                                  | 100  | 155 |
| MM YUA YB16B-A                    | YB16B-A                    | 16                     | 6 5/16                             | 3 9/16  | 6 3/8   | 160                                  | 90   | 161 |
| MM YUA YB16B-A1*                  | YB16B-A1*                  | 16                     | 6 5/16                             | 3 9/16  | 6 3/8   | 160                                  | 90   | 161 |
| MM YUA YB16C-B                    | YB16C-B                    | 19                     | 6 7/8                              | 4       | 6 7/8   | 175                                  | 100  | 175 |
| MM YUA YB16CL-B                   | YB16CL-B                   | 19                     | 6 7/8                              | 4       | 6 7/8   | 175                                  | 100  | 175 |
| MM YUA YB18-A                     | YB18-A                     | 18                     | 7 1/8                              | 3 9/16  | 6 3/8   | 180                                  | 90   | 162 |
| MM YUA YB18L-A                    | YB18L-A                    | 18                     | 7 1/8                              | 3 9/16  | 6 3/8   | 180                                  | 90   | 162 |

| Code                  | Battery Type   | Capacity<br>AH (10H-R) | Dimensions – Inches<br>(± 1/16 in) |        |         | Dimensions – Millimeters<br>(± 2 mm) |     |       |
|-----------------------|----------------|------------------------|------------------------------------|--------|---------|--------------------------------------|-----|-------|
|                       |                |                        | L                                  | W      | H       | L                                    | W   | H     |
| MM YUA Y50-N18A-A     | Y50-N18A-A     | 20                     | 8 1/8                              | 3 9/16 | 6 15/16 | 205                                  | 90  | 176   |
| MM YUA Y50-N18L-A     | Y50-N18L-A     | 20                     | 8 1/8                              | 3 9/16 | 6 3/8   | 205                                  | 90  | 162   |
| MM YUA Y50-N18L-A-CX  | Y50-N18L-A-CX  | 20                     | 8 1/8                              | 3 9/16 | 6 3/8   | 205                                  | 90  | 162   |
| MM YUA Y50-N18L-A3    | Y50-N18L-A3    | 20                     | 8 1/8                              | 3 9/16 | 6 3/8   | 205                                  | 90  | 162   |
| MM YUA SY50-N18L-AT ♦ | SY50-N18L-AT ♦ | 20                     | 8 1/8                              | 3 9/16 | 6 3/8   | 205                                  | 90  | 162   |
| MM YUA Y60-N24-A      | Y60-N24-A      | 28                     | 7 1/4                              | 4 7/8  | 6 7/8   | 184                                  | 124 | 175   |
| MM YUA YB30L-B        | YB30L-B        | 30                     | 6 5/8                              | 5 3/16 | 6 15/16 | 168                                  | 132 | 176   |
| MM YUA YB30CL-B       | YB30CL-B       | 30                     | 6 5/8                              | 5 3/16 | 7 9/16  | 168                                  | 132 | 192.2 |
| MM YUA 51814          | 51814          | 19 ***                 | 7 7/16                             | 3 1/4  | 6 7/8   | 186                                  | 82  | 171   |
| MM YUA 51913          | 51913          | 19 ***                 | 7 7/16                             | 3 1/4  | 6 7/8   | 186                                  | 82  | 171   |
| MM YUA 53030          | 53030          | 30 ***                 | 7 7/16                             | 5 1/8  | 6 7/8   | 186                                  | 130 | 171   |

\* Includes terminal adaptor for converting to top mount.

\*\* When ordering this battery, specify terminal adaptor.

\*\*\* DIN Standard @ 20 hr. rate.

• When ordering this battery, specify sensor.

• This battery includes a sensor.



## PERSONAL WATERCRAFT (PWC) APPLICATIONS

| CC                        | Model                       | Year    | High<br>Performance<br>Maintenance<br>Free | Maintenance<br>Free VRLA<br>AGM | YuMicron |
|---------------------------|-----------------------------|---------|--------------------------------------------|---------------------------------|----------|
| <b>AQUA-JET CO.</b>       |                             |         |                                            |                                 |          |
| 430                       | Aqua-Jet SX1                | '91     | –                                          | –                               | YB16-B   |
| 432                       | Aqua-Jet Sx1                | '89-'90 | –                                          | –                               | YB16-B   |
| <b>ARCTIC CAT</b>         |                             |         |                                            |                                 |          |
| 640                       | Tiger Shark                 | '97-'99 | YTX14AHL-BS                                | –                               | YB14L-A2 |
| 770                       | Tiger Shark                 | '97-'99 | YTX14AHL-BS                                | –                               | YB14L-A2 |
| <b>BRP (SEA-DOO)</b>      |                             |         |                                            |                                 |          |
| 1500                      | GTI, GTX, RXP,<br>RXT, WAKE | '12     | –                                          | –                               | YB30CL-B |
| 1500                      | GTX 4-Tec, RXP              | '03-'07 | –                                          | –                               | YB30CL-B |
|                           | All Models                  | '88-'93 | YTX20HL-BS                                 | YTX20L-BS                       | YB16L-B  |
|                           | All Other Models            | '94-'07 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
| 780                       | 3D                          | '07     | YTX20HL-BS-PW                              | –                               | YB16CL-B |
| <b>HONDA</b>              |                             |         |                                            |                                 |          |
| 1235                      | AquaTrax F/R-12,<br>F/R-12X | '02-'09 | YTX20HL-BS                                 | YTX20L-BS                       | –        |
| 1470                      | AquaTrax F-15,<br>F-15X     | '03-'12 | YTX20HL-BS                                 | YTX20L-BS                       | –        |
| <b>KAWASAKI (JET SKI)</b> |                             |         |                                            |                                 |          |
| 300                       | JS300 TS, SX                | '86-'91 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
| 400                       | JS400                       | '76     | YTX20HL-BS                                 | YTX20L-BS                       | YB16L-B  |
| 440                       | JS440                       | '87-'92 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JS440                       | '77-'86 | YTX20HL-BS                                 | YTX20L-BS                       | YB16L-B  |
| 550                       | JS550                       | '82-'85 | YTX20HL-BS                                 | YTX20L-BS                       | YB16L-B  |
|                           | JS550, SX                   | '86-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
| 650                       | JF650 TS                    | '89-'96 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JF650 X2                    | '86-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JL650 SC                    | '91-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JS650 SX                    | '87-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
| 750                       | JH750 B1-b3                 | '93-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JH750<br>E1,F2,G1,G2        | '95-'99 | YTX20HL-BS                                 | YTX20L-BS                       | –        |
|                           | JH750 SS, ST,<br>Xi, XiR    | '92-'99 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JH750 ST, Zxi               | '95-'97 | YTX20HL-BS                                 | YTX20L-BS                       | –        |
|                           | JH750 SX,ZX                 | '92-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |
|                           | JS750 SX, ZX                | '92-'95 | YTX20HL-BS-PW                              | –                               | YB16CL-B |

| CC                                    | Model                                              | Year    | High<br>Performance<br>Maintenance<br>Free | Maintenance<br>Free VRLA<br>AGM | YuMicron  | Conventional |
|---------------------------------------|----------------------------------------------------|---------|--------------------------------------------|---------------------------------|-----------|--------------|
| <b>KAWASAKI (JET SKI) (continued)</b> |                                                    |         |                                            |                                 |           |              |
|                                       | JS750 SXi, SXi Pro                                 | '95-'02 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
|                                       | JT750 STS, STX                                     | '96-'98 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
| 800                                   | JS800 SX-R                                         | '03-'12 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
| 900                                   | JH900 ZXi                                          | '95-'97 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
|                                       | JT900 STS, STX                                     | '97-'05 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
| 1100                                  | JH1100 ZXi                                         | '96-'03 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
|                                       | JH1100-B Ultra<br>130                              | '01-'04 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
|                                       | JT1100 STX                                         | '97-'03 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
| 1200                                  | JH1200-A, B Ultra<br>150                           | '99-'05 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
|                                       | JT1200-A-B, C,<br>STX-R, STX-12F                   | '02-'07 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
| 1500                                  | JT1500-A, STX,<br>STX-15F                          | '04-'12 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
|                                       | JT1500B, C,<br>250X, Ultra LX,<br>260(L)X, 300(L)X | '07-'12 | YTX20HL-BS                                 | YTX20L-BS                       | –         | –            |
| <b>POLARIS</b>                        |                                                    |         |                                            |                                 |           |              |
| All                                   | All Models                                         | All     | YTX20HL-BS-PW                              | –                               | YB16CL-B  | –            |
| <b>S.O.S. MARINE MFG</b>              |                                                    |         |                                            |                                 |           |              |
| All                                   | All Models                                         | All     | TX20H-BS                                   | YTX20-BS                        | YB16-B-CX | YB16-B       |
| <b>ULTRANAUTICS</b>                   |                                                    |         |                                            |                                 |           |              |
| 800                                   | All Models                                         | '87-'92 | –                                          | –                               | 53030     | –            |
|                                       | Wet Bike                                           | '85-'86 | –                                          | –                               | –         | YHD-12H      |
| 1250                                  | Jet Star1250<br>(Boat)                             | '88-'90 | –                                          | –                               | 53030     | –            |
|                                       | Jet Star1260<br>(Boat)                             | '91     | –                                          | –                               | 53030     | –            |
| <b>WET JET INTERNATIONAL</b>          |                                                    |         |                                            |                                 |           |              |
| All                                   | All Models                                         | All     | YTX20H-BS                                  | YTX20-BS                        | YB16-B-CX | YB16-B       |
| <b>YAMAHA</b>                         |                                                    |         |                                            |                                 |           |              |
| All                                   | All Wave Runner<br>Models                          | '87-'08 | YTX20HL-BS-PW                              | –                               | YB16CL-B  | –            |
| 700                                   | Superjet                                           | '09-'12 | YTX20HL-BS-PW                              | –                               | YB16CL-B  | –            |
| 1100                                  | VX                                                 | '09-'12 | YTX20HL-BS-PW                              | –                               | YB16CL-B  | –            |
| 1800                                  | FX, FZR, FZS,<br>VXS, VXR                          | '09-'12 | YTX20HL-BS-PW                              | –                               | YB16CL-B  | –            |

## BATTERY CHARGERS



### IVO SMART BATTERY CHARGER



| MODEL                                    | IVO Smart 12/10                                                                                                                                                                                                                                                                                                                                                                                                         | IVO Smart 12/15-2       | IVO Smart 24/6          |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|
| Code                                     | MM MST 43011000                                                                                                                                                                                                                                                                                                                                                                                                         | MM MST 43011500         | MM MST 43020600         |
| Charge current                           | 10A                                                                                                                                                                                                                                                                                                                                                                                                                     | 15A                     | 6A                      |
| Number of outlets                        | 1                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 equal outlets         | 1                       |
| Charge characteristic                    | IUoUo / 3-stage / automatic / DIN 41772                                                                                                                                                                                                                                                                                                                                                                                 |                         |                         |
| Charge voltage Absorption (25°C)         | 14.25V                                                                                                                                                                                                                                                                                                                                                                                                                  | 14.25V                  | 28.5V                   |
| Charge voltage Float / wet (25°C)        | 13.25V                                                                                                                                                                                                                                                                                                                                                                                                                  | 13.25V                  | 26.5V                   |
| Charge voltage Float / gel (25°C)        | 13.8V                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.8V                   | 27.6V                   |
| Input voltage range AC*                  | 180-250V AC                                                                                                                                                                                                                                                                                                                                                                                                             | 180-250V AC             | 180-250V AC             |
| Max. absorption time                     | 6 hours (adjustable)                                                                                                                                                                                                                                                                                                                                                                                                    | 6 hours (adjustable)    | 6 hours (adjustable)    |
| Frequency                                | 50/60Hz                                                                                                                                                                                                                                                                                                                                                                                                                 | 50/60Hz                 | 50/60Hz                 |
| Full load consumption (230V AC)          | 170VA                                                                                                                                                                                                                                                                                                                                                                                                                   | 212VA                   | 170VA                   |
| Power factor / cos phi                   | 1                                                                                                                                                                                                                                                                                                                                                                                                                       | 1                       | 1                       |
| DC consumption with connected battery    | <10mA                                                                                                                                                                                                                                                                                                                                                                                                                   | <10mA                   | <10mA                   |
| Automatic voltage compensation           | none                                                                                                                                                                                                                                                                                                                                                                                                                    | auto sense              | none                    |
| Diode compensation                       | 0.6V / remove jumper                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                         |
| Temperature range                        | 0°C to +60°C, fully safeguarded against overheating and short circuiting                                                                                                                                                                                                                                                                                                                                                |                         |                         |
| Cooling                                  | natural                                                                                                                                                                                                                                                                                                                                                                                                                 | variofan                | natural                 |
| Battery capacity (recommendation)        | 25-200 Ah                                                                                                                                                                                                                                                                                                                                                                                                               | 50-250 Ah               | 6-120 Ah                |
| Suitable as power supply without battery | yes                                                                                                                                                                                                                                                                                                                                                                                                                     | yes                     | yes                     |
| Dimensions, hxxwxd. in mm                | 50x180x121                                                                                                                                                                                                                                                                                                                                                                                                              | 50x206x121              | 50x180x121              |
| Protection degree                        | IP65                                                                                                                                                                                                                                                                                                                                                                                                                    | IP21                    | IP65                    |
| AC cable 1.5 metre                       | 2x 0.75 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                 | 3x 0.75 mm <sup>2</sup> | 2x 0.75 mm <sup>2</sup> |
| DC cable 1.5 metre                       | 2.5 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                     | 4 mm <sup>2</sup>       | 2.5 mm <sup>2</sup>     |
| Weight                                   | 1 kg                                                                                                                                                                                                                                                                                                                                                                                                                    | 1 kg                    | 1 kg                    |
| Harmonised standards                     | generic emission and disturbances standard: EN 55014-1:1993, generic harmonic current emissions:<br>EN61000-3-3:1995, generic & safety accreditations immunity standard: EN 55014-2:1997, electrostatic discharge:<br>EN 61000-4-2:1995, electrical<br>fast transients: EN 61000-4-4:1995, surge transient: EN61000-4-5:1995, conducted radio freq. disturbances:<br>EN61000-4-6:1996, voltage dips: EN 61000-4-11:1994 |                         |                         |



## CHARGE MASTER



| CHARGE MASTER 12V MODEL              | 12/10-1                         | 12/15-2                         | 12/25-3                                                       | 12/35-3                                                                                              | 12/50-3                                                      | 12/70-3                            | 12/100-3         |
|--------------------------------------|---------------------------------|---------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------|------------------|
| Code                                 | MM MST 43011000                 | MM MST 43011500                 | MM MST 44010250                                               | MM MST 44010350                                                                                      | MM MST 44010500                                              | MM MST 44010700                    | MM MST 44011000  |
| Nominal output voltage               | 12 V                            | 12 V                            | 12 V                                                          | 12 V                                                                                                 | 12 V                                                         | 12 V                               | 12 V             |
| Total charge current                 | 10 A at 14.25 V                 | 15 A at 14.25 V                 | 25 A at 13.25 V                                               | 35 A at 14.4 V                                                                                       | 50 A at 14.4 V                                               | 70 A at 14.4 V                     | 100 A at 14.4 V  |
| Number of battery outlets            | 1                               | 2                               | 3                                                             | 3                                                                                                    | 3                                                            | 3                                  | 3                |
| Charge current second output         | n.a.                            | 15 A                            | 25 A                                                          | 35 A                                                                                                 | 50 A                                                         | 10 A                               | 10 A             |
| Charge current third output          | n.a.                            | n.a.                            | 25 A                                                          | 35 A                                                                                                 | 50 A                                                         | 10 A                               | 10 A             |
| Recommended battery capacity         | 25-100 Ah                       | 30-150 Ah                       | 50-250 Ah                                                     | 70-350 Ah                                                                                            | 100-500 Ah                                                   | 140-700 Ah                         | 200-1000 Ah      |
| Nominal input voltage                | 230 V (180-265 V) – 50/60 Hz    |                                 | 120/230 V (90-265 V) – 50/60 Hz                               |                                                                                                      | 120/230 V (90-265 V) – 50/60 Hz                              |                                    |                  |
| AC connection                        | socket                          | socket                          | 2 mtr AC cable                                                | connector strips                                                                                     | connector strips                                             | connector strips                   | connector strips |
| Supplies your system without battery | no                              |                                 | yes                                                           |                                                                                                      | yes                                                          |                                    |                  |
| Display/read-out                     | 1 LED                           |                                 | LED display                                                   |                                                                                                      | LED display                                                  | LCD display                        |                  |
| Dimensions, hxxwxd                   | 180x121x50 mm<br>7.1x4.8x2 inch | 206x121x50 mm<br>8.1x4.8x2 inch | 234x132x60 mm<br>9.2x5.2x2.4 inch                             | 291x210x131 mm<br>11.5x8.3x5.2 inch                                                                  | 291x210x131 mm<br>11.5x8.3x5.2 inch                          | 362x277x150 mm<br>14.3x11x5.9 inch |                  |
| Weight                               | 1 kg / 2.2 lbs                  |                                 | 1,8 kg / 4 lbs                                                | 4 kg / 9 lbs                                                                                         | 4 kg / 9 lbs                                                 | 7 kg / 16 lbs                      |                  |
| Fastening                            | screw                           | screw                           | screw                                                         | with the supplied mounting bracket or 4x screw f or wall mounting or 4x screw for floor installation |                                                              |                                    |                  |
| Approvals                            | CE, E-mark, ABYC A-31           |                                 | CE, E-mark, ABYC A-31, SAE J1171/ ISO 8846 ignition protected |                                                                                                      | CE, E-mark, ABYC A-31, SAE J1171/ISO 8846 ignition protected |                                    |                  |

| CHARGE MASTER 24V MODEL              | 24/6-1                      | 24/12-3                                                      | 24/20-3                                                                                             | 24/30-3          | 24/40-3                                                      | 24/60-3          | 24/80-3                    | 24/100-3         |
|--------------------------------------|-----------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------|------------------|----------------------------|------------------|
| Code                                 | MM MST 43020600             | MM MST 44020120                                              | MM MST 44020200                                                                                     | MM MST 44020300  | MM MST 44020400                                              | MM MST 44020600  | MM MST 44020800            | MM MST 44021000  |
| Nominal output voltage               | 24 V                        | 24 V                                                         | 24 V                                                                                                | 24 V             | 24 V                                                         | 24 V             | 24 V                       | 24 V             |
| Total charge current                 | 6 A at 28.5 V               | 12 A at 26.5 V                                               | 20 A at 28.8 V                                                                                      | 30 A at 28.8 V   | 40 A at 28.8 V                                               | 60 A at 28.8 V   | 80 A at 28.8 V             | 100 A at 28.8 V  |
| Number of battery outlets            | 1                           | 3                                                            | 3                                                                                                   | 3                | 3                                                            | 3                | 3                          | 3                |
| Charge current second output         | n.a.                        | 12 A                                                         | 20 A                                                                                                | 30 A             | 10 A                                                         | 10 A             | 10 A                       | 10 A             |
| Charge current third output          | n.a.                        | 12 A                                                         | 20 A                                                                                                | 30 A             | 10 A                                                         | 10 A             | 10 A                       | 10 A             |
| Recommended battery capacity         | 25-70 Ah                    | 24-120 Ah                                                    | 40-200 Ah                                                                                           | 60-300 Ah        | 80-400 Ah                                                    | 120-600 Ah       | 160-800 Ah                 | 200-1000 Ah      |
| Nominal input voltage                | 230 V (180-265 V) 50/60 Hz  | 120/230 V (90-265 V) – 50/60 Hz                              |                                                                                                     |                  | 120/230 V (90-265 V) – 50/60 Hz                              |                  |                            |                  |
| AC connection                        | socket                      | 2 mtr AC cable                                               | connector strips                                                                                    | connector strips | connector strips                                             | connector strips | connector strips           | connector strips |
| Supplies your system without battery | no                          | yes                                                          | yes                                                                                                 | yes              | yes                                                          | yes              | yes                        | yes              |
| Display/read-out                     | 1 LED                       | LED display                                                  |                                                                                                     |                  | LCD display                                                  |                  |                            |                  |
| Dimensions, hxxwxd                   | 180x121x50mm 7.1x4.8x2 inch | 234x132x60 mm 9.2x5.2x2.4 in.                                | 291x210x131 11.5x8.3x5.2 inch                                                                       |                  | 362x277x150 14.3x11x5.9 inch                                 |                  | 432x277x150 17x11x5.9 inch |                  |
| Weight                               | 1 kg / 2.2 lbs              | 1.8 kg / 4 lbs                                               | 4 kg / 9 lbs                                                                                        |                  | 7 kg / 16 lbs                                                |                  | 8 kg / 18 lbs              |                  |
| Fastening                            | 4x screw                    | 4x screw                                                     | with the supplied mounting bracket or 4x screw for wall mounting or 4x screw for floor installation |                  |                                                              |                  |                            |                  |
| Approvals                            | CE, E-mark, ABYC A-31       | CE, E-mark, ABYC A-31, SAE J1171/ISO 8846 ignition protected |                                                                                                     |                  | CE, E-mark, ABYC A-31, SAE J1171/ISO 8846 ignition protected |                  |                            |                  |




**"MASS SINE" SINE WAVE INVERTERS**


| MODEL                                             | Mass Sine 12/800                   | Mass Sine 12/1200                    | Mass Sine 12/2000                    | Mass Sine 24/800                    | Mass Sine 24/1500                    |
|---------------------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|
| 230 V code                                        | MM MST 24010800                    | MM MST 24011200                      | MM MST 24012000                      | MM MST 24020800                     | MM MST 24021500                      |
| 120 V* code                                       | n.a.                               | n.a.                                 | MM MST 25012000*                     | n.a.                                | n.a.                                 |
| Nominal battery voltage                           | 12 V                               | 12 V                                 | 12 V                                 | 24 V                                | 24 V                                 |
| P30 power Tamb= 25 °C, cos phi 1                  | 800 VA                             | 1200 VA                              | 2000 VA                              | 800 VA                              | 1500 VA                              |
| Nom. power Tamb= 40 °C, cos phi 1                 | 650 VA                             | 1000 VA                              | 1800 VA                              | 650 VA                              | 1200 VA                              |
| Peak load                                         | 1600 VA                            | 2400 VA                              | 4000 VA                              | 1600 VA                             | 2900 VA                              |
| Max. effi ciency                                  | 92%                                | 92%                                  | 92%                                  | 92%                                 | 92%                                  |
| Dimensions, hxxwxd                                | 313x187x82 mm<br>12.3x7.4x3.2 inch | 340x261x144 mm<br>13.4x10.3x5.7 inch | 420x318x130 mm<br>16.5x12.5x5.1 inch | 325x220x111 mm<br>12.8x8.7x4.4 inch | 340x261x144 mm<br>13.4x10.3x5.7 inch |
| Weight                                            | 3.9 kg / 8.6 lbs                   | 6 kg / 13.2 lbs                      | 9.4 kg / 20.7 lbs                    | 3.9 kg / 8.6 lbs                    | 6 kg / 13.2 lbs                      |
| Minimum battery capacity                          | >100 Ah                            | >150 Ah                              | >200 Ah                              | >50 Ah                              | >150 Ah                              |
| Input current (nominal load)                      | 68 A                               | 130 A                                | 200 A                                | 34 A                                | 70 A                                 |
| No load power consumption<br>'stand-by'           | 65 mA/0.8 W                        | 43 mA/0.5 W                          | 50 mA/0.6 W                          | 35 mA/0.8 W                         | 25 mA/0.6 W                          |
| No load power consumption<br>'low energy' (208 V) | 410 mA/4.9 W                       | 420 mA/4.5 W                         | 420 mA/5 W                           | 200 mA/4.9 W                        | 180 mA/4.5 W                         |
| No load power consumption<br>'high power' (230 V) | 470 mA/5.6 W                       | 450 mA/5 W                           | 480 mA/6 W                           | 240 mA/5.6 W                        | 200 mA/5 W                           |
| Min. DC cable size                                | 25 mm <sup>2</sup>                 | 50 mm <sup>2</sup>                   | 70 mm <sup>2</sup>                   | 16 mm <sup>2</sup>                  | 25 mm <sup>2</sup>                   |

| MODEL                                             | Mass Sine 24/2500                    | Mass Sine 24/5000                     | Mass Sine 24/10kVa                                                 | Mass sine 24/15kVa    |
|---------------------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------------------------------------|-----------------------|
| 230 V code                                        | MM MST 24022500                      | MM MST 24011200                       | MM MST 24012000                                                    | MM MST 24020800       |
| 120 V* code                                       | MM MST 25022500*                     | n.a.                                  | n.a.                                                               | n.a.                  |
| Nominal battery voltage                           | 24 V                                 | 24 V                                  | 24 V                                                               | 24 V                  |
| P30 power Tamb= 25 °C, cos phi 1                  | 2500 VA                              | 5000 VA                               | 10 kVA                                                             | 1500 VA               |
| Nom. power Tamb= 40 °C, cos phi 1                 | 2000 VA                              | 4000 VA                               | 8 kVA                                                              | 1300 VA               |
| Peak load                                         | 5000 VA                              | 10000 VA                              | 20 kVA                                                             | 3000 VA               |
| Max. effi ciency                                  | 92%                                  | 90%                                   | 92%                                                                | 92%                   |
| Dimensions, hxxwxd                                | 420x318x130 mm<br>16.5x12.5x5.1 inch | 475.5x318x254 mm<br>18.7x10.3x10 inch | 2xC4 + C5 enclosure<br>C4= 460.5x318x143 mm / C5= 475.5x318x254 mm | 3xC4 + C5 enclosure   |
| Weight                                            | 9.7 kg / 21.4 lbs                    | 19 kg / 41.9 lbs                      | 44 kg / 97 lbs                                                     | 55 kg / 121.3 lbs     |
| Minimum battery capacity                          | >200 Ah                              | >400 Ah                               | >500 Ah                                                            | >800 Ah               |
| Input current (nominal load)                      | 120 A                                | 240 A                                 | 4x 120 A                                                           | 6x 120 A              |
| No load power consumption<br>'stand-by'           | 25 mA/0.6 W                          | n.a.                                  | <10 W, 412 mA                                                      | <10 W, 412 mA         |
| No load power consumption<br>'low energy' (208 V) | 225 mA/5.4 W                         | n.a.                                  | n.a.                                                               | n.a.                  |
| No load power consumption<br>'high power' (230 V) | 250 mA/6 W                           | 250 mA/6 W                            | 150 W                                                              | 180 W                 |
| Min. DC cable size                                | 50 mm <sup>2</sup>                   | 2x 50 mm <sup>2</sup>                 | 4x 50 mm <sup>2</sup>                                              | 6x 50 mm <sup>2</sup> |

\* 15% load reduction for the 120 V/60 Hz Mass Sine models.

## UNINTERRUPTIBLE POWER SUPPLY



### APC SMART-UPS RT 1000VA 230V - MARINE



APC Marine, 700 Watts / 1000 VA, Input 230V / Output 230V, Interface Port DB-9 RS-232, SmartSlot, Extended runtime model, Rack Height 2 U. Includes: CD with software, Smart UPS signalling RS-232 cable, User Manual

Code: MM APC SURT1000XLIM

| Output                           |                                                          |
|----------------------------------|----------------------------------------------------------|
| Output Power Capacity            | 700 Watts / 1000 VA                                      |
| Max Configurable Power           | 700 Watts / 1000 VA                                      |
| Nominal Output Voltage           | 230V                                                     |
| Output Voltage Note              | Configurable for 220 : 230 or 240 nominal output voltage |
| Efficiency at Full Load          | 88.0%                                                    |
| Output Voltage Distortion        | Less than 3%                                             |
| Output Frequency (sync to mains) | 50/60 Hz +/- 3 Hz user adjustable +/- 0.1                |
| Other Output Voltages            | 220, 240                                                 |
| Crest Factor                     | 3 : 1                                                    |
| Topology                         | Double Conversion Online                                 |
| Waveform Type                    | Sine wave                                                |
| Output Connections               | (6) IEC 320 C13 (2) IEC Jumpers                          |
| Bypass                           | Built-in Bypass                                          |

| Input                                              |                                  |
|----------------------------------------------------|----------------------------------|
| Nominal Input Voltage                              | 230V                             |
| Input Frequency                                    | 50/60 Hz +/- 5 Hz (auto sensing) |
| Input Connections                                  | IEC-320 C14                      |
| Cord Length                                        | 2.5 meters                       |
| Input voltage range for main operations            | 180 - 280V                       |
| Input voltage adjustable range for mains operation | 100 - 280V                       |
| Other Input Voltages                               | 220, 240                         |

| Physical       |           |
|----------------|-----------|
| Maximum Height | 432.00 mm |
| Maximum Width  | 85.00 mm  |
| Maximum Depth  | 483.00 mm |



### APC SMART-UPS RT 2200VA 230V - MARINE



APC Marine, 1540 Watts / 2200 VA, Input 230V / Output 230V, Interface Port RJ-45 Serial, Smart-Slot, Extended runtime model, Rack Height 3 U. Includes: CD with software, Documentation CD, Installation guide, Rack mounting hardware, Smart UPS signalling RS-232 cable, User Manual.

Code: MM APC SURTD2200XLIM

| Output                           |                                                          |
|----------------------------------|----------------------------------------------------------|
| Output Power Capacity            | 1540 Watts / 2200 VA                                     |
| Max Configurable Power           | 1540 Watts / 2200 VA                                     |
| Nominal Output Voltage           | 230V                                                     |
| Output Voltage Note              | Configurable for 220 : 230 or 240 nominal output voltage |
| Output Voltage Distortion        | Less than 3%                                             |
| Output Frequency (sync to mains) | 50/60 Hz +/- 3 Hz user adjustable +/- 0.1                |
| Other Output Voltages            | 220, 240                                                 |
| Crest Factor                     | 3 : 1                                                    |
| Topology                         | Double Conversion Online                                 |
| Waveform Type                    | Sine wave                                                |
| Output Connections               | (8) IEC 320 C13 (2) IEC 320 C19                          |
| Bypass                           | Internal Bypass (Automatic and Manual)                   |

| Input                                              |                                                  |
|----------------------------------------------------|--------------------------------------------------|
| Nominal Input Voltage                              | 230V                                             |
| Input Frequency                                    | 50/60 Hz +/- 5 Hz (auto sensing)                 |
| Input Connections                                  | British BS1363A IEC-320 C20 Schuko CEE 7/EU1-16P |
| Cord Length                                        | 2.5 meters                                       |
| Input voltage range for main operations            | 180 - 280V                                       |
| Input voltage adjustable range for mains operation | 100 - 280V                                       |
| Other Input Voltages                               | 220, 240                                         |

| Physical       |           |
|----------------|-----------|
| Maximum Height | 432.00 mm |
| Maximum Width  | 130.00 mm |
| Maximum Depth  | 660.00 mm |



### APC SMART-UPS RT 3000VA 230V - MARINE



APC Marine, 2100 Watts / 3000 VA, Input 230V / Output 230V, Interface Port RJ-45 Serial, Smart-Slot, Extended runtime model, Rack Height 3 U. Includes: CD with software, Smart UPS signalling RS-232 cable, User Manual.

Code: MM APC SURTD3000XLIM

| Output                           |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| Output Power Capacity            | 2100 Watts / 3000 VA                                                                               |
| Max Configurable Power           | 2100 Watts / 3000 VA                                                                               |
| Nominal Output Voltage           | 230V                                                                                               |
| Output Voltage Note              | Configurable for 220 : 230 or 240 nominal output voltage                                           |
| Output Voltage Distortion        | Less than 3%                                                                                       |
| Output Frequency (sync to mains) | 50/60 Hz +/- 3 Hz user adjustable +/- 0.1                                                          |
| Other Output Voltages            | 220, 240                                                                                           |
| Crest Factor                     | 3 : 1                                                                                              |
| Topology                         | Double Conversion Online                                                                           |
| Waveform Type                    | Sine wave                                                                                          |
| Output Connections               | (8) IEC 320 C13   |
|                                  | (2) IEC 320 C19  |
|                                  | (2) IEC Jumpers                                                                                    |
| Bypass                           | Internal Bypass (Automatic and Manual)                                                             |

| Input                                              |                                                        |
|----------------------------------------------------|--------------------------------------------------------|
| Nominal Input Voltage                              | 230V                                                   |
| Input Frequency                                    | 50/60 Hz +/- 5 Hz (auto sensing)                       |
| Input Connections                                  | British BS1363A<br>IEC-320 C20<br>Schuko CEE 7/EU1-16P |
| Cord Length                                        | 2.44 meters                                            |
| Input voltage range for main operations            | 180 - 270V                                             |
| Input voltage adjustable range for mains operation | 100 - 280V                                             |
| Other Input Voltages                               | 220, 240                                               |

| Physical       |           |
|----------------|-----------|
| Maximum Height | 432.00 mm |
| Maximum Width  | 130.00 mm |
| Maximum Depth  | 660.00 mm |



### APC SMART-UPS RT 6000VA 230V - MARINE



APC Marine, 4200 Watts / 6000 VA, Input 230V / Output 230V, Interface Port DB-9 RS-232, Smart-Slot, Extended runtime model, Rack Height 3 U. Includes: CD with software, Smart UPS signalling RS-232 cable, User Manual.

Code: MM APC SURT6000XLIM

| Output                           |                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------|
| Output Power Capacity            | 4200 Watts / 6000 VA                                                                                |
| Max Configurable Power           | 4200 Watts / 6000 VA                                                                                |
| Nominal Output Voltage           | 230V                                                                                                |
| Output Voltage Note              | Configurable for 220 : 230 or 240 nominal output voltage                                            |
| Efficiency at Full Load          | 92.0%                                                                                               |
| Output Voltage Distortion        | Less than 3%                                                                                        |
| Output Frequency (sync to mains) | 50/60 Hz +/- 3 Hz user adjustable +/- 0.1                                                           |
| Other Output Voltages            | 220, 240                                                                                            |
| Crest Factor                     | 3 : 1                                                                                               |
| Topology                         | Double Conversion Online                                                                            |
| Waveform Type                    | Sine wave                                                                                           |
| Output Connections               | (8) IEC 320 C13  |
|                                  | (2) IEC 320 C19  |
|                                  | (2) IEC Jumpers                                                                                     |
| Bypass                           | Internal Bypass (Automatic and Manual)                                                              |

| Input                                              |                                  |
|----------------------------------------------------|----------------------------------|
| Nominal Input Voltage                              | 230V                             |
| Input Frequency                                    | 50/60 Hz +/- 5 Hz (auto sensing) |
| Input Connections                                  | Hard Wire 3-wire                 |
| Input voltage range for main operations            | 180 - 270V                       |
| Input voltage adjustable range for mains operation | 100 - 280V                       |
| Other Input Voltages                               | 220, 240                         |

| Physical       |           |
|----------------|-----------|
| Maximum Height | 432.00 mm |
| Maximum Width  | 130.00 mm |
| Maximum Depth  | 660.00 mm |

## BATTERY SWITCHES

### HEAVY DUTY MKII MARINE BATTERY SWITCH



Made of black polycarbonate and fixed on a flange. Equipped with PVC watertight cap and double key. CE type-tested in compliance with directive 94/25/CE (EN ISO 28846). Compulsory device to mount on positive cable, ISO 10133 standards. Two keys included.

| Code           | Max capacity - for 5 seconds | Max capacity - continuous | Ø flange (mm) | Spare key |
|----------------|------------------------------|---------------------------|---------------|-----------|
| MM OSC 1438510 | 2500 A                       | 280 A                     | 66            | 14.385.34 |

### MARINE BATTERY SWITCH



Made of black polycarbonate, flange fixing; fitted with watertight rubber cap and splash-proof key. Model with nickel plated brass key pin, very sturdy. "CE" type-teste[1: in compliance with directive 94/25/CE (EN ISO 28846). Obligatory for mounting on a positive cable, under ISO 10133 standards.

| Code           | Max capacity - for 5 seconds | Max capacity - continuous | Ø flange | Spare key |
|----------------|------------------------------|---------------------------|----------|-----------|
| MM OSC 1438603 | 1000 A                       | 100 A                     | 60       | 14.386.33 |

### HEAVY DUTY MARINE BATTERY SWITCH



Made of black polycarbonate, flange fixing; fitted with watertight rubber cap and nickel-plated splash-proof key. "CE" type-tested in compliance with directive 94/25/CE (EN ISO 28846). Obligatory for mounting on a positive cable, under ISO 10133 standards.

| Code           | Max capacity - for 5 seconds | Max capacity - continuous | Ø flange | Spare key |
|----------------|------------------------------|---------------------------|----------|-----------|
| MM OSC 1438500 | 2500 A                       | 280 A                     | 66       | 14.385.33 |

### BATTERY SWITCH



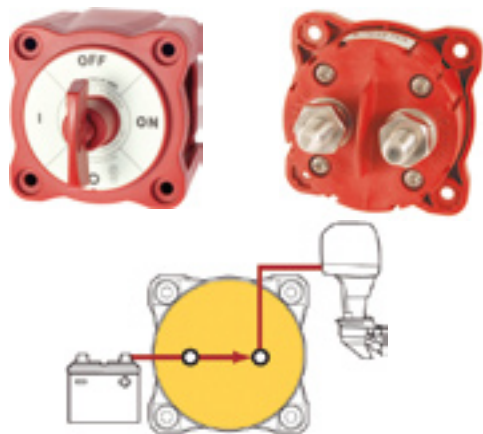
Made of black polycarbonate, flange fixing; extra version with AISI 316 stainless steel body, collar mounting with double threaded screw nut, very sturdy; equipped with watertight PVC cap and splash-proof nickel-plated brass key. CE type-tested in compliance with directive 94/25/CE (EN ISO 28846). Obligatory for mounting on a positive cable, under ISO 10133 standards.

| Code           | Description | Max capacity - for 5 seconds | Max capacity - continuous | Ø flange |
|----------------|-------------|------------------------------|---------------------------|----------|
| MM OSC 1438602 | Switch      | 2500 Amp                     | 280 Amp                   | 66       |
| MM OSC 1438634 | Spare key   |                              |                           |          |



### M-SERIES MINI ON-OFF BATTERY SWITCH WITH KEY - RED

Code: MM BLS 6005



Switch set to ON

Switches a single battery to a single load group

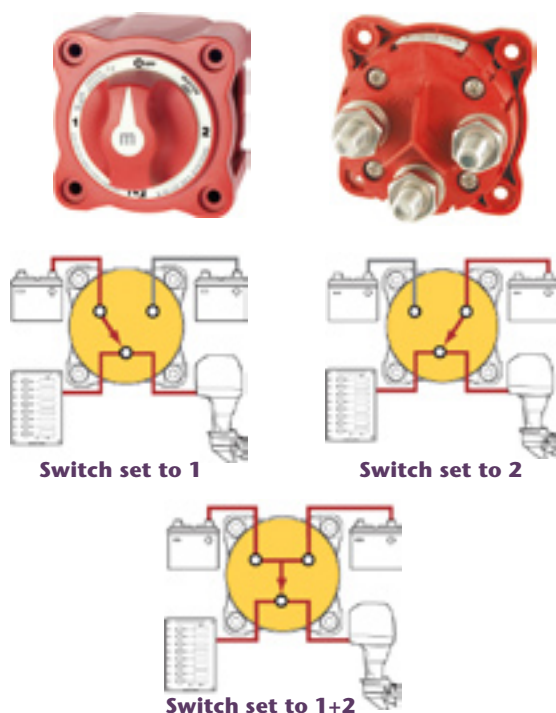
- Ignition protected—safe for installation aboard gasoline powered boats
- Case design allows surface, front panel, or rear panel mounting
- Isolating cover with snap-on sections protects rear contacts

| Specifications                     |                               |
|------------------------------------|-------------------------------|
| Switch Type                        | Single Circuit ON-OFF         |
| Color                              | Red                           |
| Switch Positions                   | 2                             |
| Battery Combine                    | No                            |
| Alternator Field Disconnect        | No                            |
| Maximum Voltage                    | 48V DC                        |
| Continuous Rating                  | 300A                          |
| Intermittent Rating                | 500A (5 min)                  |
| Cranking Rating 10 sec             | 1500A                         |
| Cranking Rating 1 min              | 775A                          |
| Battery Inputs                     | 1                             |
| Cable Clearance For 4/0 AWG Cables | 1.12in (28.45 mm)             |
| Cable Size to Meet Ratings         | 4/0 AWG (120mm <sup>2</sup> ) |
| Mounting Holes                     | Accept #10 Screw              |
| Terminal Stud Size                 | 3/8"-16 (M10)                 |
| Terminal Stud Torque               | 120 in-lb (13.56 Nm)          |
| Weight                             | 0.62lb (0.28 kg)              |



### M-SERIES MINI SELECTOR BATTERY SWITCH - RED

Code: MM BLS 6007



Switch set to 1

Switch set to 2

Switch set to 1+2

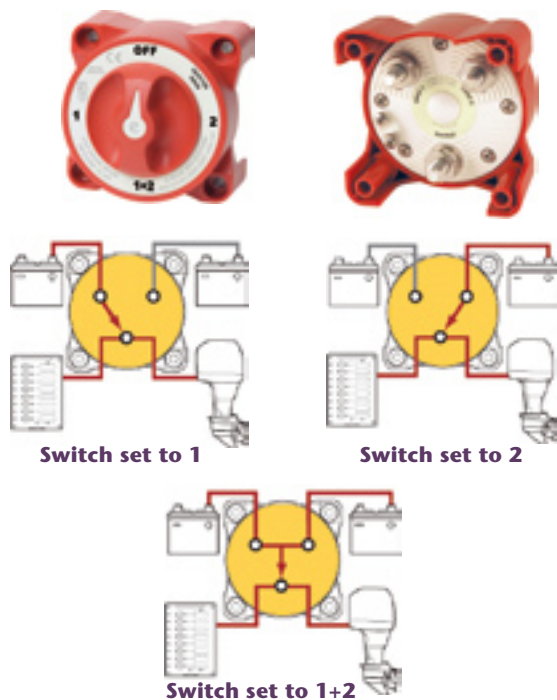
Switches isolated battery banks to all loads or combines battery banks to all loads

- Make before break contact design allows switching between battery banks without power interruption Isolating cover with snap-on sections protects rear contacts

| Specifications                     |                               |
|------------------------------------|-------------------------------|
| Switch Type                        | Selector 4 Position           |
| Color                              | Red                           |
| Switch Positions                   | 4                             |
| Battery Combine                    | Yes                           |
| Alternator Field Disconnect        | No                            |
| Maximum Voltage                    | 32V DC                        |
| Continuous Rating                  | 300A                          |
| Intermittent Rating                | 500A (5 min)                  |
| Cranking Rating 10 sec             | 1500A                         |
| Cranking Rating 1 min              | 775A                          |
| Battery Inputs                     | 2                             |
| Cable Clearance For 4/0 AWG Cables | 1.12in (28.45 mm)             |
| Cable Size to Meet Ratings         | 4/0 AWG (120mm <sup>2</sup> ) |
| Mounting Holes                     | Accept #10 Screw              |
| Terminal Stud Size                 | 3/8"-16 (M10)                 |
| Terminal Stud Torque               | 120 in-lb (13.56 Nm)          |
| Weight                             | 0.77lb (0.35 kg)              |



### E-SERIES SELECTOR BATTERY SWITCH WITH AFD



Code: MM BLS 9002E

| Specifications                     |                               |
|------------------------------------|-------------------------------|
| Switch Type                        | Selector 4 Position           |
| Color                              | Red                           |
| Switch Positions                   | 4                             |
| Battery Combine                    | Yes                           |
| Alternator Field Disconnect        | Yes                           |
| Maximum Voltage                    | 32V DC                        |
| Continuous Rating                  | 350A                          |
| Intermittent Rating                | 600A (5 min)                  |
| Cranking Rating 10 sec             | 2000A                         |
| Cranking Rating 1 min              | 1000A                         |
| Battery Inputs                     | 2                             |
| Cable Clearance For 4/0 AWG Cables | 1.10in (27.94 mm)             |
| Cable Size to Meet Ratings         | 4/0 AWG (120mm <sup>2</sup> ) |
| Mounting Holes                     | Accept 1/4" (M6) Screw        |
| Terminal Stud Size                 | 3/8"-16 (M10)                 |
| Terminal Stud Torque               | 140 in-lb (15.82 Nm)          |
| Weight                             | 1.30lb (0.59 kg)              |

Switches isolated battery banks to all loads or combines battery banks to all loads

- Includes AFD (Alternator Field Disconnect)
- Make-before-break contact design allows switching between battery banks without power interruption
- Ignition protected—safe for installation aboard gasoline powered boats
- Case design allows surface or rear panel mounting



### E-SERIES ON-OFF BATTERY SWITCH



Code: MM BLS 9004E

| Specifications                     |                               |
|------------------------------------|-------------------------------|
| Switch Type                        | Single Circuit ON-OFF         |
| Color                              | Red                           |
| Switch Positions                   | 2                             |
| Battery Combine                    | No                            |
| Alternator Field Disconnect        | Yes                           |
| Maximum Voltage                    | 48V DC                        |
| Continuous Rating                  | 350A                          |
| Intermittent Rating                | 600A (5 min)                  |
| Cranking Rating 10 sec             | 2000A                         |
| Cranking Rating 1 min              | 1000A                         |
| Battery Inputs                     | 1                             |
| Cable Clearance For 4/0 AWG Cables | 1.10in (27.94 mm)             |
| Cable Size to Meet Ratings         | 4/0 AWG (120mm <sup>2</sup> ) |
| Mounting Holes                     | Accept 1/4" (M6) Screw        |
| Terminal Stud Size                 | 3/8"-16 (M10)                 |
| Terminal Stud Torque               | 140 in-lb (15.82 Nm)          |
| Weight                             | 1.30lb (0.59 kg)              |

Switches a single battery to a single load group

- Includes AFD (Alternator Field Disconnect)
- Ignition protected—safe for installation aboard gasoline powered boats
- Case design allows surface or rear panel mounting





### HD-SERIES HEAVY DUTY ON-OFF BATTERY SWITCH WITH AFD

Code: MM BLS 3001



Switches a single battery to a single load group

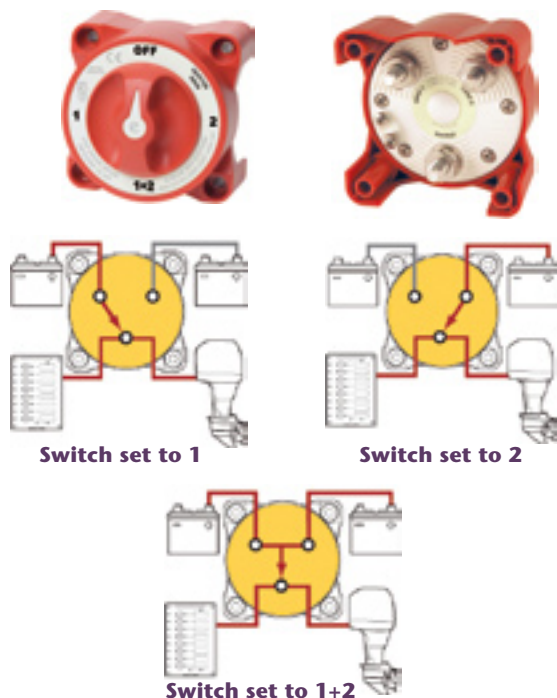
- Includes AFD (Alternator Field Disconnect)
- Ignition protected—safe for installation aboard gasoline powered boats
- Case design allows surface or rear panel mounting
- Accepts two 4/0 AWG (95mm<sup>2</sup>) battery cables

| Specifications                     |                               |
|------------------------------------|-------------------------------|
| Switch Type                        | Single Circuit ON-OFF         |
| Color                              | Grey                          |
| Switch Positions                   | 2                             |
| Battery Combine                    | No                            |
| Alternator Field Disconnect        | Yes                           |
| Maximum Voltage                    | 32V DC                        |
| Continuous Rating                  | 600A                          |
| Intermittent Rating                | 900A (5 min)                  |
| Cranking Rating 10 sec             | 2750A                         |
| Cranking Rating 1 min              | 1325A                         |
| Battery Inputs                     | 1                             |
| Cable Clearance For 4/0 AWG Cables | 1.10in (27.94 mm)             |
| Cable Quantity to Meet Ratings     | Two Cables                    |
| Cable Size to Meet Ratings         | 4/0 AWG (120mm <sup>2</sup> ) |
| Mounting Holes                     | Accept 1/4" (M6) Screw        |
| Terminal Stud Size                 | 1/2" (M12)                    |
| Terminal Stud Torque               | 220 in-lb (24.86 Nm)          |
| Weight                             | 1.30lb (0.59 kg)              |



### HD-SERIES HEAVY DUTY SELECTOR BATTERY SWITCH WITH AFD

Code: MM BLS 3003



| Specifications                     |                               |
|------------------------------------|-------------------------------|
| Switch Type                        | Selector 4 Position           |
| Color                              | Grey                          |
| Switch Positions                   | 4                             |
| Battery Combine                    | Yes                           |
| Alternator Field Disconnect        | Yes                           |
| Maximum Voltage                    | 32V DC                        |
| Continuous Rating                  | 500A                          |
| Intermittent Rating                | 700A (5 min)                  |
| Cranking Rating 10 sec             | 2750A                         |
| Cranking Rating 1 min              | 1150A                         |
| Battery Inputs                     | 2                             |
| Cable Clearance For 4/0 AWG Cables | 1.10in (27.94 mm)             |
| Cable Quantity to Meet Ratings     | Two Cables / Terminal         |
| Cable Size to Meet Ratings         | 4/0 AWG (120mm <sup>2</sup> ) |
| Mounting Holes                     | Accept 1/4" (M6) Screw        |
| Terminal Stud Size                 | 1/2" (M12)                    |
| Terminal Stud Torque               | 220 in-lb (24.86 Nm)          |
| Weight                             | 1.25lb (0.57 kg)              |

Switches isolated battery banks to all loads or combines battery banks to all loads

- Includes AFD (Alternator Field Disconnect)
- Make-before-break contact design allows switching between battery banks without power interruption
- Ignition protected—safe for installation aboard gasoline powered boats
- Case design allows surface or rear panel mounting
- Accepts two 4/0 AWG (95mm<sup>2</sup>) battery cables

## FUSES

## GLASS FUSES 5X20



| Code           | Amperage | Voltage  | Dimensions | Pack   | Type  |
|----------------|----------|----------|------------|--------|-------|
| MM REB RE10058 | 0,25A    | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10059 | 0,50A    | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10045 | 1A       | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10046 | 2A       | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10006 | 3A       | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10001 | 4A       | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10007 | 5A       | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10008 | 8A       | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10009 | 10A      | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10010 | 12A      | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10011 | 15A      | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |
| MM REB RE10012 | 20A      | 12 - 24V | 5 x 20 mm  | 50 pcs | rapid |

## GLASS FUSES 6,3X32



| Code           | Amperage | Voltage  | Dimensions  | Pack   | Type  |
|----------------|----------|----------|-------------|--------|-------|
| MM REB RE10047 | 1A       | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10048 | 2A       | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10049 | 3A       | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10013 | 5A       | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10014 | 7,5A     | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10015 | 10A      | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10016 | 15A      | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10050 | 20A      | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10017 | 25A      | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10018 | 30A      | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |
| MM REB RE10019 | 35A      | 12 - 24V | 6,3 x 32 mm | 50 pcs | rapid |

## GLASS FUSES 7X32



| Code           | Amperage | Voltage  | Dimensions | Pack   | Type  |
|----------------|----------|----------|------------|--------|-------|
| MM REB RE10120 | 5A       | 12 - 24V | 7 x 32 mm  | 50 pcs | rapid |
| MM REB RE10121 | 8A       | 12 - 24V | 7 x 32 mm  | 50 pcs | rapid |
| MM REB RE10122 | 10A      | 12 - 24V | 7 x 32 mm  | 50 pcs | rapid |
| MM REB RE10123 | 12A      | 12 - 24V | 7 x 32 mm  | 50 pcs | rapid |
| MM REB RE10124 | 15A      | 12 - 24V | 7 x 32 mm  | 50 pcs | rapid |
| MM REB RE10125 | 20A      | 12 - 24V | 7 x 32 mm  | 50 pcs | rapid |



## MINI-VAL FUSES



| Code           | Amperage | Voltage  | Dimensions  | Pack   | Type  | Colour  |
|----------------|----------|----------|-------------|--------|-------|---------|
| MM REB RE10060 | 2A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | grey    |
| MM REB RE10061 | 3A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | violet  |
| MM REB RE10062 | 4A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | pink    |
| MM REB RE10063 | 5A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | beige   |
| MM REB RE10064 | 7,5A     | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | brown   |
| MM REB RE10065 | 10A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | red     |
| MM REB RE10066 | 15A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | blue    |
| MM REB RE10067 | 20A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | yellow  |
| MM REB RE10068 | 25A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | natural |
| MM REB RE10069 | 30A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | green   |

MINI-VAL FUSES  
LOW PROFILE

| Code           | Amperage | Voltage  | Dimensions  | Pack   | Type  | Colour  |
|----------------|----------|----------|-------------|--------|-------|---------|
| MM REB RE10126 | 2A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | grey    |
| MM REB RE10127 | 3A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | violet  |
| MM REB RE10128 | 4A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | pink    |
| MM REB RE10129 | 5A       | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | beige   |
| MM REB RE10130 | 7,5A     | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | brown   |
| MM REB RE10131 | 10A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | red     |
| MM REB RE10132 | 15A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | blue    |
| MM REB RE10133 | 20A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | yellow  |
| MM REB RE10134 | 25A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | natural |
| MM REB RE10135 | 30A      | 12 - 24V | 11,2 x 4 mm | 25 pcs | rapid | green   |

## UNI-VAL FUSES



| Code           | Amperage | Voltage  | Dimensions  | Pack    | Type  | Colour  |
|----------------|----------|----------|-------------|---------|-------|---------|
| MM REB RE10070 | 1A       | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | black   |
| MM REB RE10071 | 2A       | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | grey    |
| MM REB RE10072 | 3A       | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | violet  |
| MM REB RE10073 | 4A       | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | pink    |
| MM REB RE10026 | 5A       | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | beige   |
| MM REB RE10074 | 7,5A     | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | brown   |
| MM REB RE10027 | 10A      | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | red     |
| MM REB RE10028 | 15A      | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | blue    |
| MM REB RE10075 | 20A      | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | yellow  |
| MM REB RE10029 | 25A      | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | natural |
| MM REB RE10030 | 30A      | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | green   |
| MM REB RE10031 | 40A      | 12 - 24V | 19 x 5,5 mm | 100 pcs | rapid | orange  |

## WARNING LIGHT FOR UNIVAL FUSES



To be installed between the fuseholder and the UNI-VAL fuse  
A light inside switches on when a fuse blows  
It can be mounted on every UNI-VAL fuse from 1A to 40A

| Code           | Type of use | Fuse compatible     | Visual alarm | Dimensions       | Pack   |
|----------------|-------------|---------------------|--------------|------------------|--------|
| MM REB RE60364 | 1-40A       | Every UNI-VAL fuses | yes          | 19 x 5,5 x 20 mm | 10 pcs |

## BOX WITH FUSE KIT 80 PCS



Practical box with separating and transparent cover that can be opened

| Code           | Type of use | Number division | Range of fuses<br>4A-5A-7,5A-10A-15A-<br>20A-25A-30A | Dimensions box |
|----------------|-------------|-----------------|------------------------------------------------------|----------------|
| MM REB RE10021 | UNI-VAL     | 8               | 80 pcs (10 for type)                                 | 164x117x36 mm  |
| MM REB RE10101 | MINI-VAL    | 8               | 80 pcs                                               | 164x117x36 mm  |

## PLUGS & SOCKETS

### SEAL CONNECTORS



Golden hypertac contacts – Linear distribution on the contact  
High power rating – Coupling plug fixed socket

| Code           | Poles<br><i>n</i> | MAX<br>amperage<br><i>A</i> | Socket<br>diameter<br><i>mm</i> | Plug<br>diameter<br><i>mm</i> |
|----------------|-------------------|-----------------------------|---------------------------------|-------------------------------|
| MM REB RE58978 | 3                 | 12                          | 43                              | 36                            |
| MM REB RE58980 | 5                 | 12                          | 43                              | 36                            |
| MM REB RE58981 | 6                 | 12                          | 43                              | 36                            |
| MM REB RE58982 | 9                 | 12                          | 43                              | 36                            |
| MM REB RE58933 | 7                 | 12                          | 43                              | 36                            |
| MM REB RE58934 | 8                 | 12                          | 43                              | 36                            |
| MM REB RE58935 | 10                | 12                          | 43                              | 36                            |
| MM REB RE58936 | 12                | 12                          | 43                              | 36                            |

### SEAL CONNECTORS 3A



Coupling plug fixed socket – ABS cover with screws –  
In chromed brass – Bronze contacts

| Code           | Poles<br><i>n</i> | MAX<br>amperage<br><i>A</i> | Socket<br>diameter<br><i>mm</i> | Plug<br>diameter<br><i>mm</i> |
|----------------|-------------------|-----------------------------|---------------------------------|-------------------------------|
| MM REB RE58932 | 2                 | 3A                          | 42                              | 35                            |
| MM REB RE58931 | 3                 | 3A                          | 42                              | 35                            |
| MM REB RE58930 | 4                 | 3A                          | 42                              | 35                            |

### SEAL CONNECTORS 5A



Coupling plug fixed socket – ABS cover with screws –  
In chromed brass – Bronze contacts

| Code           | Poles<br><i>n</i> | MAX<br>amperage<br><i>A</i> | Socket<br>diameter<br><i>mm</i> | Plug<br>diameter<br><i>mm</i> |
|----------------|-------------------|-----------------------------|---------------------------------|-------------------------------|
| MM REB RE58952 | 2                 | 5A                          | 52                              | 45                            |
| MM REB RE58951 | 3                 | 5A                          | 52                              | 45                            |
| MM REB RE58950 | 4                 | 5A                          | 52                              | 45                            |

**ELECTRICAL POWER CONNECTORS**

**Outlet Socket**

**Inlet Plug**

**Handle**

Plugs and sockets with integral load-break switching capability complying with IEC EN 60309-1 and IEC EN 60309-4 standards

| ELECTRICAL FEATURES                   |                                   |              |           |               |               |
|---------------------------------------|-----------------------------------|--------------|-----------|---------------|---------------|
|                                       | DS1                               | DS3          | DS6       | DS9           | DS2           |
| Rated current I <sub>n</sub> (up to)  | 30 A                              | 50 A         | 90 A      | 150 A         | 250 A         |
| U <sub>max</sub>                      | 690 V                             | 1000 V       | 1000 V    | 1000 V        | 1000 V        |
| AC-22 switching capability            | 16 A / 690 V                      | 32 A / 690 V | A / 690 V | 150 A / 400 V | 250 A / 400 V |
| AC-23 switching capability            | 30 A / 400 V                      | 50 A / 400 V | A / 400 V | 100 A / 440 V | 160 A / 440 V |
| Auxiliary contacts (optional)         | 2                                 | 4            | 4         | 6             | 7             |
| Keying positions (1)                  | 24                                | 24           | 24        | 24            | 12            |
| Ambient temperature                   | -40 °C to +60 °C for all DS range |              |           |               |               |
| Short-circuit current I <sub>cc</sub> | 10 kA for all DS range            |              |           |               |               |

(1) To discriminate between different power supplies and applications

| DS1 up to 30A IP55     |               |          |              |               |          |                      |         |
|------------------------|---------------|----------|--------------|---------------|----------|----------------------|---------|
| Socket-outlet (female) |               |          | Inlet (male) |               |          | Handles              |         |
| Code                   | Voltage 50 Hz | Polarity | Code         | Voltage 50 Hz | Polarity | Code                 | Size    |
| MM MCH 31 14 08A       | 20 -24 V      | 2P       | 31 18 08A    | 20 -24 V      | 2P       | MM MCH 31 1A 753     | 5-12mm  |
| MM MCH 31 14 033       | 190 -230 V    | 3P+E     | 31 18 033    | 190 -230 V    | 3P+E     |                      |         |
| MM MCH 31 14 015       | 220 -250 V    | 1P+N+E   | 31 18 015    | 220 -250 V    | 1P+N+E   | MM MCH 31 1A 253 25P | 9-18mm  |
| MM MCH 31 14 013       | 380 -440 V    | 3P+E     | 31 18 013    | 380 -440 V    | 3P+E     |                      |         |
| MM MCH 31 14 017       | 380 -440 V    | 3P+N+E   | 31 18 017    | 380 -440 V    | 3P+N+E   | MM MCH 31 1A 253 32P | 14-25mm |
| MM MCH 31 14 193       | 660 -690 V    | 3P+E     | 31 18 193    | 660 -690 V    | 3P+E     |                      |         |
| MM MCH 31 14 197       | 660 -690 V    | 3P+N+E   | 31 18 197    | 660 -690 V    | 3P+N+E   | MM MCH 31 1A 253 40P | 18-32mm |

| DS3 up to 50A IP55     |               |          |                  |               |          |                      |         |
|------------------------|---------------|----------|------------------|---------------|----------|----------------------|---------|
| Socket-outlet (female) |               |          | Inlet (male)     |               |          | Handles              |         |
| Code                   | Voltage 50 Hz | Polarity | Code             | Voltage 50 Hz | Polarity | Code                 | Size    |
| MM MCH 31 34 08A       | 20 -24 V      | 2P       | MM MCH 31 38 08A | 20 -24 V      | 2P       | MM MCH 31 3A 253 20P | 5-12mm  |
| MM MCH 31 34 033       | 190 -230 V    | 3P+E     | MM MCH 31 38 033 | 190 -230 V    | 3P+E     |                      |         |
| MM MCH 31 34 015       | 220 -250 V    | 1P+N+E   | MM MCH 31 38 015 | 220 -250 V    | 1P+N+E   | MM MCH 31 3A 753     | 9-18mm  |
| MM MCH 31 34 013       | 380 -440 V    | 3P+E     | MM MCH 31 38 013 | 380 -440 V    | 3P+E     |                      |         |
| MM MCH 31 34 017       | 380 -440 V    | 3P+N+E   | MM MCH 31 38 017 | 380 -440 V    | 3P+N+E   | MM MCH 31 3A 253 32P | 14-25mm |
| MM MCH 31 34 193       | 660 -690 V    | 3P+E     | MM MCH 31 38 193 | 660 -690 V    | 3P+E     |                      |         |
| MM MCH 31 34 197       | 660 -690 V    | 3P+N+E   | MM MCH 31 38 197 | 660 -690 V    | 3P+N+E   | MM MCH 31 3A 253 40P | 18-32mm |
| MM MCH 31 34 223       | 1000 V        | 3P+E     | MM MCH 31 38 223 | 1000 V        | 3P+E     |                      |         |

## DS6 up to 90A IP55

| Socket-outlet<br>(female) PBT* |               |          | Inlet<br>(male) PBT* |               |          | Handles              |         |
|--------------------------------|---------------|----------|----------------------|---------------|----------|----------------------|---------|
| Code                           | Voltage 50 Hz | Polarity | Code                 | Voltage 50 Hz | Polarity | Code                 | Size    |
| MM MCH 31 64 033               | 190 -230 V    | 3P+E     | MM MCH 31 68 033     | 190 -230 V    | 3P+E     | MM MCH 31 6A 253 25P | 9-18mm  |
| MM MCH 31 64 015               | 220 -250 V    | 1P+N+E   | MM MCH 31 68 015     | 220 -250 V    | 1P+N+E   | MM MCH 31 6A 253 32P | 14-25mm |
| MM MCH 31 64 013               | 380 -440 V    | 3P+E     | MM MCH 31 68 013     | 380 -440 V    | 3P+E     | MM MCH 31 6A 753     | 18-32mm |
| MM MCH 31 64 017               | 380 -440 V    | 3P+N+E   | MM MCH 31 68 017     | 380 -440 V    | 3P+N+E   | MM MCH 31 6A 253 50P | 24-38mm |
| MM MCH 31 64 193               | 660 -690 V    | 3P+E     | MM MCH 31 68 193     | 660 -690 V    | 3P+E     |                      |         |
| MM MCH 31 64 197               | 660 -690 V    | 3P+N+E   | MM MCH 31 68 197     | 660 -690 V    | 3P+N+E   |                      |         |
| MM MCH 31 64 223               | 1000 V        | 3P+E     | MM MCH 31 68 223     | 1000 V        | 3P+E     |                      |         |

\* For a metal casing, replace 31 on part no. by 39

## DS9 up to 150A IP66/67

| Socket-outlet<br>(female) |               |          | Inlet<br>(male)  |               |          | Handles              |         |
|---------------------------|---------------|----------|------------------|---------------|----------|----------------------|---------|
| Code                      | Voltage 50 Hz | Polarity | Code             | Voltage 50 Hz | Polarity | Code                 | Size    |
| MM MCH 31 94 033          | 190 -230 V    | 3P+E     | MM MCH 31 98 033 | 190 -230 V    | 3P+E     | MM MCH 61 9A 253 63P | 35-48mm |
| MM MCH 31 94 015          | 220 -250 V    | 1P+N+E   | MM MCH 31 98 015 | 220 -250 V    | 1P+N+E   |                      |         |
| MM MCH 31 94 013          | 380 -440 V    | 3P+E     | MM MCH 31 98 013 | 380 -440 V    | 3P+E     |                      |         |
| MM MCH 31 94 017          | 380 -440 V    | 3P+N+E   | MM MCH 31 98 017 | 380 -440 V    | 3P+N+E   |                      |         |
| MM MCH 31 94 193          | 660 -690 V    | 3P+E     | MM MCH 31 98 193 | 660 -690 V    | 3P+E     |                      |         |
| MM MCH 31 94 197          | 660 -690 V    | 3P+N+E   | MM MCH 31 98 197 | 660 -690 V    | 3P+N+E   |                      |         |
| MM MCH 31 94 223          | 1000 V        | 3P+E     | MM MCH 31 98 223 | 1000 V        | 3P+E     |                      |         |

## DS9 up to 150A IP55

| Socket-outlet<br>(female) |               |          | Inlet<br>(male)  |               |          | Handles              |         |
|---------------------------|---------------|----------|------------------|---------------|----------|----------------------|---------|
| Code                      | Voltage 50 Hz | Polarity | Code             | Voltage 50 Hz | Polarity | Code                 | Size    |
| MM MCH 39 94 033          | 190 -230 V    | 3P+E     | MM MCH 39 98 033 | 190 -230 V    | 3P+E     | MM MCH 61 9A 253 63M | 35-48mm |
| MM MCH 39 94 015          | 220 -250 V    | 1P+N+E   | MM MCH 39 98 015 | 220 -250 V    | 1P+N+E   |                      |         |
| MM MCH 39 94 013          | 380 -440 V    | 3P+E     | MM MCH 39 98 013 | 380 -440 V    | 3P+E     |                      |         |
| MM MCH 39 94 017          | 380 -440 V    | 3P+N+E   | MM MCH 39 98 017 | 380 -440 V    | 3P+N+E   |                      |         |
| MM MCH 39 94 193          | 660 -690 V    | 3P+E     | MM MCH 39 98 193 | 660 -690 V    | 3P+E     |                      |         |
| MM MCH 39 94 197          | 660 -690 V    | 3P+N+E   | MM MCH 39 98 197 | 660 -690 V    | 3P+N+E   |                      |         |
| MM MCH 39 94 223          | 1000 V        | 3P+E     | MM MCH 39 98 223 | 1000 V        | 3P+E     |                      |         |

## DS2 up to 250A IP55

| Socket-outlet<br>(female) |               |          | Inlet<br>(male)  |               |          | Handles          |         |
|---------------------------|---------------|----------|------------------|---------------|----------|------------------|---------|
| Code                      | Voltage 50 Hz | Polarity | Code             | Voltage 50 Hz | Polarity | Code             | Size    |
| MM MCH 39 24 033          | 190 -230 V    | 3P+E     | MM MCH 39 28 033 | 190 -230 V    | 3P+E     | MM MCH 39 2A 753 | 35-48mm |
| MM MCH 39 24 013          | 380 -440 V    | 3P+E     | MM MCH 39 28 013 | 380 -440 V    | 3P+E     |                  |         |
| MM MCH 39 24 017          | 380 -440 V    | 3P+N+E   | MM MCH 39 28 017 | 380 -440 V    | 3P+N+E   |                  |         |
| MM MCH 39 24 193          | 660 -690 V    | 3P+E     | MM MCH 39 28 193 | 660 -690 V    | 3P+E     |                  |         |
| MM MCH 39 24 197          | 660 -690 V    | 3P+N+E   | MM MCH 39 28 197 | 660 -690 V    | 3P+N+E   |                  |         |
| MM MCH 39 24 223          | 1000 V        | 3P+E     | MM MCH 39 28 223 | 1000 V        | 3P+E     |                  |         |

## NAVIGATION LIGHTS



2 NM Naviled  
TRIO  
Tri Colour  
Navigation Lamp  
Voltage: 12V, 24V

MM HEL 2LT980650-001



2 NM Tri-Colour  
Navigation Lamp  
Voltage: 12V

MM HEL 2844



2 NM Tri-Colour  
/ Anchor  
Navigation  
Lamp  
Voltage: 12V

MM HEL 2845



2 NM Naviled  
PRO Port  
Navigation Lamp  
Black Shroud - Red Lens  
Voltage: 12V, 24V

MM HEL 2LT959900-001



2 NM Naviled  
PRO Port  
Navigation Lamp  
White Shroud - Red Lens  
Voltage: 12V, 24V

MM HEL 2LT959900-011



2 NM BSH  
Naviled  
PRO Port Navigation Lamp  
Black Shroud - Red Lens  
Voltage: 12V, 24V

MM HEL 2LT959900-501



2 NM BSH  
Naviled  
PRO Port Navigation Lamp  
White Shroud - Red Lens  
Voltage: 12V, 24V

MM HEL 2LT959900-511



3 NM Naviled  
PRO Port  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V

MM HEL 2LT959900-201



3 NM Naviled  
PRO Port  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V

MM HEL 2LT959900-211



2 NM  
Naviled  
Port Navigation Lamp  
Black Shroud - Red Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-001



2 NM  
Naviled  
Port Navigation Lamp  
White Shroud - Red Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-011



2 NM BSH  
Naviled  
Port Navigation Lamp  
Black Shroud - Red Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-061



2 NM BSH  
Naviled  
Port Navigation Lamp  
White Shroud - Red Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-071



2 NM Port Navigation Lamp  
12V DC, Black Housing  
Voltage: 12V

MM HEL 2854



2 NM Port Navigation Lamp  
12V DC, White Housing  
Voltage: 12V

MM HEL 2854W



2 NM Naviled  
PRO Starboard  
Navigation Lamp  
Black Shroud - Green Lens  
Voltage: 12V, 24V

MM HEL 2LT959908-001



2 NM Naviled  
PRO Starboard  
Navigation Lamp  
White Shroud - Green Lens  
Voltage: 12V, 24V

MM HEL 2LT959908-011



2 NM BSH  
Naviled  
PRO Starboard  
Navigation Lamp  
Black Shroud - Green Lens  
Voltage: 12V, 24V

MM HEL 2LT959908-501



2 NM BSH  
Naviled  
PRO Starboard  
Navigation Lamp  
White Shroud - Green Lens  
Voltage: 12V, 24V

MM HEL 2LT959908-511



3 NM  
NaviLED  
PRO Starboard  
Navigation Lamp  
Black Shroud - Green Lens  
Voltage: 12V, 24V

MM HEL 2LT959908-201

3 NM  
NaviLED  
PRO Starboard  
Navigation Lamp  
White Shroud - Green Lens  
Voltage: 12V, 24V

MM HEL 2LT959908-211

22 NM  
NaviLED  
Starboard Navigation Lamp  
Black Shroud, Coloured Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-201

22 NM  
NaviLED  
Starboard Navigation Lamp  
White Shroud, Coloured Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-211

2 NM BSH  
NaviLED  
Starboard Navigation Lamp  
Black Shroud, Coloured Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-261

2 NM BSH  
NaviLED  
Starboard Navigation Lamp  
White Shroud, Coloured Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-271

2 NM  
Starboard  
Navigation Lamp  
12V DC, Black Housing  
Voltage: 12V

MM HEL 2853

2 NM  
Starboard  
Navigation Lamp  
12V DC, White Housing  
Voltage: 12V

MM HEL 2853W

2NM  
NaviLED  
Port and  
Starboard Pair  
Black Shroud - Coloured Lens  
Voltage: 12V, 24V

MM HEL 2LT980520-801

2NM  
NaviLED  
Port and  
Starboard Pair  
White Shroud - Coloured Lens  
Voltage: 12V, 24V

MM HEL 2LT980520-811

2 NM BSH  
NaviLED  
Port and  
Starboard  
Navigation Lamps  
Black Shroud - Coloured Lens  
Voltage: 12V, 24V

MM HEL 2LT980520-861

2 NM BSH  
NaviLED  
Port and  
Starboard  
Navigation Lamps  
White Shroud - Coloured Lens  
Voltage: 12V, 24V

MM HEL 2LT980520-871

2NM  
NaviLED  
Deck Mount  
Port and Starboard Pair  
Black Shroud - Coloured Lens  
Voltage: 12V, 24V

MM HEL 2LT980620-801

2NM  
NaviLED  
Deck Mount  
Port and Starboard Pair  
White Shroud - Coloured Lens  
Voltage: 12V, 24V

MM HEL 2LT980620-811

2 NM BSH  
NaviLED  
PRO Bi-Colour  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V

MM HEL 2LT959941-001

2 NM BSH  
NaviLED  
PRO Bi-Colour  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V

MM HEL 2LT959941-011

2 NM  
NaviLED  
PRO Stern  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V

MM HEL 2LT959909-001

2 NM  
NaviLED  
PRO Stern  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V

MM HEL 2LT959909-011

2 NM BSH  
NaviLED  
PRO Stern  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V

MM HEL 2LT959909-501

2 NM BSH  
NaviLED  
PRO Stern  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V

MM HEL 2LT959909-511

3 NM  
NaviLED  
PRO Stern  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V

MM HEL 2LT959909-201

3 NM  
NaviLED  
PRO Stern  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V

MM HEL 2LT959909-211

2 NM  
NaviLED  
Stern Navigation Lamp  
Black Shroud - Clear Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-501

2 NM  
NaviLED  
Stern Navigation Lamp  
White Shroud - Clear Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-511



2 NM BSH  
NavILED  
Stern Navigation Lamp  
Black Shroud - Clear Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-501



2 NM BSH  
NavILED  
Stern Navigation Lamp  
White Shroud - Clear Lens  
(120mm Cable)  
Voltage: 12V, 24V

MM HEL 2LT980520-511



2 NM  
Stern Navigation Lamps  
12V DC, Black Housing  
Voltage: 12V

MM HEL 2851



2 NM  
Stern Navigation Lamps  
12V DC, White Housing  
Voltage: 12V

MM HEL 2851W



2 NM  
NavILED 360  
All Round  
White Navigation Lamps  
Surface Mount - Black Base  
Voltage: 12V, 24V

MM HEL 2LT980910-001



2 NM  
NavILED 360  
All Round  
White Navigation Lamps  
Surface Mount - White Base  
Voltage: 12V, 24V

MM HEL 2LT980910-011



2 NM BSH  
NavILED  
360 All Round  
White Navigation Lamps  
Surface Mount - Black Base  
Voltage: 12V, 24V

MM HEL 2LT980910-101



2 NM  
NavILED 360  
All Round  
White Navigation Lamps  
Surface Mount - White Base  
Voltage: 12V, 24V

MM HEL 2LT980910-111



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
12inch/305mm - Black Base  
Voltage: 12V, 24V

MM HEL 2LT980910-001



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
12inch/305mm - White Base  
Voltage: 12V, 24V

MM HEL 2LT959910-721



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
20inch/500mm - Black Base  
Voltage: 12V, 24V

MM HEL 2LT959910-661



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
20inch/500mm - White Base  
Voltage: 12V, 24V

MM HEL 2LT959910-761



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
24inch/610mm - Black Base  
Voltage: 12V, 24V

MM HEL 2LT959910-631



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
24inch/610mm - White Base  
Voltage: 12V, 24V

MM HEL 2LT959910-731



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
34inch/850mm - Black Base  
Voltage: 12V, 24V

MM HEL 2LT959910-651



2 NM  
NavILED  
360 All Round  
White Fold  
Down Pole  
Navigation Lamp  
34inch/850mm - White Base  
Voltage: 12V, 24V

MM HEL 2LT959910-751



2 NM  
NavILED  
360 All Round  
White Plug-in Pole  
Navigation Lamp  
24inch/610mm - Black Base  
Voltage: 12V, 24V

MM HEL 2LT959910-431



2 NM  
NavILED  
360 All Round  
White Plug-in Pole  
Navigation Lamp  
24inch/610mm - White Base  
Voltage: 12V, 24V

MM HEL 2LT959910-531



2 NM  
NavILED  
360 All Round  
White Plug-in Pole  
Navigation Lamp  
42inch/1070mm - Black Base  
Voltage: 12V, 24V

MM HEL 2LT959910-451



2 NM  
NavILED  
360 All Round  
White Plug-in Pole  
Navigation Lamp  
42inch/1070mm - White Base  
Voltage: 12V, 24V

MM HEL 2LT959910-551



2 NM  
All Round  
White / Anchor  
Navigation Lamp  
12V DC, Black  
or White Housing  
Voltage: 12V

MM HEL 2846  
MM HEL 2846W



2 NM  
All Round  
White with  
optional Strobe  
function  
12V Anchor Lamp Only  
Black or White  
Voltage: 12V

MM HEL 2LT002984-801  
MM HEL 2LT002984-811



2 NM  
All Round  
White with  
optional Strobe  
function  
12V Anchor / Strobe  
Black or White  
Voltage: 12V

MM HEL 2LT002984-821  
MM HEL 2LT002984-831



2 NM All Round  
White / Anchor  
Surface  
Mount Lamps  
12V DC, Black  
or White Housing  
Voltage: 12V

MM HEL 2875  
MM HEL 2875W



2 NM  
Masthead / Anchor  
Navigation Lamp  
Fold Down Base  
12V, 8inch/204mm  
Black or White Housing  
Voltage: 12V



MM HEL 2LT995003-021  
MM HEL 2LT995003-061

2 NM  
Masthead / Anchor  
Navigation Lamp  
Fold Down Base  
12V, 20inch/508mm  
Black or White Housing  
Voltage: 12V



MM HEL 2LT995003-031  
MM HEL 2LT995003-071

2 NM  
NaviLED  
360 All Round  
Red Navigation Lamps  
Surface Mount - Black Base  
Voltage: 12V, 24V



MM HEL 2LT980910-401

2 NM  
NaviLED  
360 All Round  
Red Navigation Lamps  
Surface Mount - White Base  
Voltage: 12V, 24V



MM HEL 2LT980910-411

2 NM BSH  
NaviLED  
360 All Round  
Red Navigation Lamps  
Surface Mount - Black Base  
Voltage: 12V, 24V



MM HEL 2LT980910-501

2 NM BSH  
NaviLED  
360 All Round  
Red Navigation Lamps  
Surface Mount - White Base  
Voltage: 12V, 24V



MM HEL 2LT980910-511

2 NM  
All Round  
Red Navigation Lamp  
12V DC, Black Housing  
Voltage: 12V



MM HEL 2848

2 NM  
All Round  
Green Navigation Lamp  
12V DC, Black Housing  
Voltage: 12V



MM HEL 2847

2 NM  
NaviLED  
360 All Round  
Green Navigation Lamps  
Surface Mount - Black Base  
Voltage: 12V, 24V



MM HEL 2LT980910-201

2 NM  
NaviLED  
360 All Round  
Green Navigation Lamps  
Surface Mount - White Base  
Voltage: 12V, 24V



MM HEL 2LT980910-211

2 NM BSH  
NaviLED  
360 All Round  
Green Navigation Lamps  
Surface Mount - Black Base  
Voltage: 12V, 24V



MM HEL 2LT980910-301

2 NM BSH  
NaviLED  
360 All Round  
Green Navigation Lamps  
Surface Mount - White Base  
Voltage: 12V, 24V



MM HEL 2LT980910-311

5 NM BSH  
NaviLED  
PRO Masthead  
Navigation Lamp  
Black Shroud  
Ultra Heavy Duty Lens  
Voltage: 12V, 24V



MM HEL 2LT959940-401

5 NM BSH  
NaviLED  
PRO Masthead  
Navigation Lamp  
White Shroud  
Ultra Heavy Duty Lens  
Voltage: 12V, 24V



MM HEL 2LT959940-411

3 NM  
NaviLED  
PRO Masthead  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V



MM HEL 2LT959940-201

3 NM  
NaviLED  
PRO Masthead  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V



MM HEL 2LT959940-211

3 NM BSH  
NaviLED  
PRO Masthead  
Navigation Lamp  
Black Shroud  
Voltage: 12V, 24V



MM HEL 2LT959940-501

3 NM BSH  
NaviLED  
PRO Masthead  
Navigation Lamp  
White Shroud  
Voltage: 12V, 24V



MM HEL 2LT959940-511

3 NM BSH  
NaviLED  
PRO Masthead  
Navigation Lamp  
Black Shroud  
Ultra Heavy Duty Lens  
Voltage: 12V, 24V



MM HEL 2LT959940-601

3 NM BSH  
NaviLED  
PRO Masthead  
Navigation Lamp  
White Shroud  
Ultra Heavy Duty Lens  
Voltage: 12V, 24V



MM HEL 2LT959940-611

3 NM  
Masthead  
Navigation Lamps  
12V DC, Black Housing  
Voltage: 12V



MM HEL 2850

3 NM  
Masthead  
Navigation Lamps  
12V DC, White Housing  
Voltage: 12V



MM HEL 2850W

2 NM  
NaviLED  
Towing Navigation Lamp  
Black Shroud - Amber Lens  
(120mm Cable)  
Voltage: 12V, 24V



MM HEL 2LT980520-601

2 NM  
NaviLED  
Towing Navigation Lamp  
White Shroud - Amber Lens  
(120mm Cable)  
Voltage: 12V, 24V



MM HEL 2LT980520-611

## BULBS

### BAY15D DOUBLE POLE BULB, VERTICAL FILAMENT



| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00092 | BAY15D | 12V     | 25W   | 62 mm  | 36 mm    |
| MM REB RE00093 | BAY15D | 24V     | 25W   | 62 mm  | 36 mm    |
| MM REB RE00094 | BAY15D | 12V     | 10 W  | 62 mm  | 36 mm    |
| MM REB RE00095 | BAY15D | 24V     | 10 W  | 62 mm  | 36 mm    |

### BAY15D DOUBLE POLE BULB, VERTICAL FILAMENT



| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00042 | BAY15D | 12V     | 25W   | 70 mm  | 26 mm    |
| MM REB RE00043 | BAY15D | 24V     | 25W   | 70 mm  | 26 mm    |
| MM REB RE00044 | BAY15D | 12V     | 10 W  | 70 mm  | 26 mm    |
| MM REB RE00045 | BAY15D | 24V     | 10 W  | 70 mm  | 26 mm    |

### P28S LONG LIFE BULB



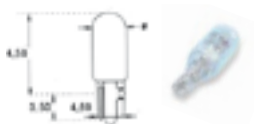
| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00123 | P28S   | 24V     | 40W   | 108 mm | 38 mm    |
| MM REB RE00124 | P28S   | 220V    | 65W   | 108 mm | 38 mm    |

### BA15D DOUBLE POLE BULB



| Code           | Socket | Voltage | Power | Length  | Diameter |
|----------------|--------|---------|-------|---------|----------|
| MM REB RE00005 | BA15D  | 12V     | 15W   | 46,5 mm | 26,50 mm |
| MM REB RE00006 | BA15D  | 24V     | 15W   | 46,5 mm | 26,50 mm |
| MM REB RE00046 | BA15D  | 12V     | 20 W  | 46,5 mm | 26,50 mm |
| MM REB RE00047 | BA15D  | 24V     | 20 W  | 46,5 mm | 26,50 mm |

### WEDGE GLASS BASE W2 X 4,6D



| Code           | Socket  | Voltage | Power | Length | Diameter |
|----------------|---------|---------|-------|--------|----------|
| MM REB RE00052 | W2X4,6D | 12V     | 1,2W  | 18 mm  | 5 mm     |
| MM REB RE00053 | W2X4,6D | 24V     | 1,2W  | 31 mm  | 5 mm     |

### WEDGE GLASS BASE W2,1D



| Code           | Socket    | Voltage | Power | Length   | Diameter |
|----------------|-----------|---------|-------|----------|----------|
| MM REB RE00001 | W2,1X9,5D | 12V     | 3W    | 25,30 mm | 10,3 mm  |
| MM REB RE00002 | W2,1X9,5D | 24V     | 3W    | 25,30 mm | 10,3 mm  |

**E14 SPHERICAL BULB**

| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00007 | E14    | 12V     | 25W   | 70 mm  | 45 mm    |
| MM REB RE00009 | E14    | 12V     | 40W   | 70 mm  | 45 mm    |
| MM REB RE00129 | E14    | 12V     | 15W   | 70 mm  | 45 mm    |
| MM REB RE00008 | E14    | 24V     | 25W   | 70 mm  | 45 mm    |
| MM REB RE00010 | E14    | 24V     | 40W   | 70 mm  | 45 mm    |

**E27 SPHERICAL BULB**

| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00151 | E27    | 12V     | 15W   | 70 mm  | 45 mm    |
| MM REB RE00056 | E27    | 12V     | 25W   | 70 mm  | 45 mm    |
| MM REB RE00057 | E27    | 12V     | 40W   | 70 mm  | 45 mm    |
| MM REB RE00130 | E27    | 24V     | 15W   | 70 mm  | 45 mm    |
| MM REB RE00058 | E27    | 24V     | 25W   | 70 mm  | 45 mm    |
| MM REB RE00059 | E27    | 24V     | 40W   | 70 mm  | 45 mm    |
| MM REB RE00152 | E27    | 24V     | 60W   | 70 mm  | 45 mm    |

**B22 STANDARD BULB**

| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00131 | B22    | 12V     | 15W   | 70 mm  | 45 mm    |
| MM REB RE00132 | B22    | 14V     | 25W   | 70 mm  | 45 mm    |
| MM REB RE00133 | B22    | 12V     | 40W   | 70 mm  | 45 mm    |
| MM REB RE00134 | B22    | 24V     | 25W   | 70 mm  | 45 mm    |
| MM REB RE00135 | B22    | 24V     | 40W   | 70 mm  | 45 mm    |
| MM REB RE00136 | B22    | 24V     | 60W   | 70 mm  | 45 mm    |

**E27 STANDARD BULB**

| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00086 | E27    | 12V     | 40W   | 103 mm | 60 mm    |
| MM REB RE00087 | E27    | 24V     | 40W   | 103 mm | 60 mm    |
| MM REB RE00021 | E27    | 24V     | 60W   | 103 mm | 60 mm    |
| MM REB RE00022 | E27    | 24V     | 100W  | 103 mm | 60 mm    |

**B22 SPHERICAL BULB**

| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00063 | B22    | 12V     | 40W   | 103 mm | 60 mm    |
| MM REB RE00064 | B22    | 24V     | 40W   | 103 mm | 60 mm    |
| MM REB RE00150 | B22    | 24V     | 60W   | 103 mm | 60 mm    |

**FLUORESCENT TUBE**

| Code           | Socket | Colour | Power | Length | Diameter |
|----------------|--------|--------|-------|--------|----------|
| MM REB RE00137 | 8000h  | cold   | 4W    | 136 mm | 6 mm     |
| MM REB RE00138 | 8000h  | cold   | 6W    | 226 mm | 6 mm     |
| MM REB RE00065 | 8000h  | cold   | 8W    | 288 mm | 6 mm     |
| MM REB RE00066 | 8000h  | warm   | 13W   | 517 mm | 6 mm     |

## FLUORESCENT TUBE



| Code           | Socket | Colour | Power | Length | Diameter |
|----------------|--------|--------|-------|--------|----------|
| MM REB RE00069 | 8000h  | cold   | 7W    | 120 mm | 34 mm    |
| MM REB RE00067 | 8000h  | cold   | 9W    | 152 mm | 34 mm    |
| MM REB RE00068 | 8000h  | cold   | 11W   | 210 mm | 34 mm    |

## FLUORESCENT TUBE WITH SEPARATED SUPPLY



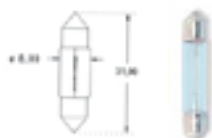
| Code           | Socket | Colour | Power | Length | Diameter |
|----------------|--------|--------|-------|--------|----------|
| MM REB RE00139 | 10000h | cold   | 7W    | 137 mm | 27 mm    |
| MM REB RE00140 | 10000h | cold   | 11W   | 237 mm | 27 mm    |

## FESTOON BULB FOR AQUA SIGNAL LIGHT



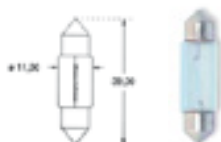
| Code           | Socket      | Voltage | Power | Length | Diameter |
|----------------|-------------|---------|-------|--------|----------|
| MM REB RE00096 | Aqua Signal | 12V     | 10 W  | 43 mm  | 10 mm    |
| MM REB RE00097 | Aqua Signal | 24V     | 10 W  | 43 mm  | 10 mm    |

## SV 7,8 FESTOON BULB



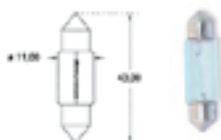
| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00054 | SV 7,8 | 12V     | 3W    | 31 mm  | 8 mm     |
| MM REB RE00055 | SV 7,8 | 24V     | 3W    | 31 mm  | 8 mm     |

## SV8,5-8 FESTOON BULB



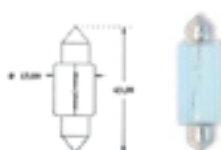
| Code           | Socket     | Voltage | Power | Length | Diameter |
|----------------|------------|---------|-------|--------|----------|
| MM REB RE00023 | SV 8,5 - 8 | 12V     | 5W    | 38 mm  | 10 mm    |
| MM REB RE00017 | SV 8,5 - 8 | 12V     | 10W   | 38 mm  | 10 mm    |
| MM REB RE00024 | SV 8,5 - 8 | 24V     | 5W    | 38 mm  | 10 mm    |
| MM REB RE00018 | SV 8,5 - 8 | 24V     | 10W   | 38 mm  | 10 mm    |

## SV8,5-8 FESTOON BULB

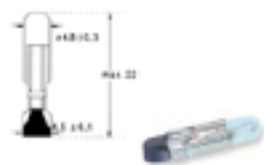


| Code           | Socket     | Voltage | Power | Length | Diameter |
|----------------|------------|---------|-------|--------|----------|
| MM REB RE00027 | SV 8,5 - 8 | 12V     | 10W   | 43 mm  | 11 mm    |
| MM REB RE00028 | SV 8,5 - 8 | 24V     | 10W   | 43 mm  | 11 mm    |

## SV8,5-8 FESTOON BULB



| Code           | Socket     | Voltage | Power | Length | Diameter |
|----------------|------------|---------|-------|--------|----------|
| MM REB RE00023 | SV 8,5 - 8 | 12V     | 15W   | 43 mm  | 15 mm    |
| MM REB RE00017 | SV 8,5 - 8 | 12V     | 18W   | 43 mm  | 15 mm    |
| MM REB RE00024 | SV 8,5 - 8 | 24V     | 10W   | 43 mm  | 15 mm    |
| MM REB RE00018 | SV 8,5 - 8 | 24V     | 18W   | 43 mm  | 15 mm    |

**T 5,5K INCANDESCENT BULB**

| Code           | Socket  | Voltage | Power | Length | Diameter |
|----------------|---------|---------|-------|--------|----------|
| MM REB RE00031 | T 5,5 K | 12V     | 1,2W  | 22 mm  | 4,8 mm   |
| MM REB RE00032 | T 5,5 K | 24V     | 1,2W  | 22 mm  | 4,8 mm   |
| MM REB RE00033 | T 5,5 K | 30V     | 1,2W  | 22 mm  | 4,8 mm   |

**BA7S BULB**

| Code           | Socket | Voltage | Power | Length  | Diameter |
|----------------|--------|---------|-------|---------|----------|
| MM REB RE00038 | BA7S   | 12V     | 2W    | 20,7 mm | 6,8 mm   |
| MM REB RE00039 | BA7S   | 24V     | 2W    | 20,7 mm | 6,8 mm   |

**BA9S MICROSVAN BULB**

| Code           | Socket | Voltage | Power | Length | Diameter |
|----------------|--------|---------|-------|--------|----------|
| MM REB RE00141 | BA9S   | 12V     | 2W    | 23 mm  | 8,5 mm   |
| MM REB RE00011 | BA9S   | 12V     | 2W    | 23 mm  | 8,5 mm   |
| MM REB RE00142 | BA9S   | 24V     | 4W    | 23 mm  | 8,5 mm   |
| MM REB RE00012 | BA9S   | 24V     | 4W    | 23 mm  | 8,5 mm   |

**BA15D DOUBLE POLE SVAN BULB**

| Code           | Socket | Voltage | Power | Length  | Diameter |
|----------------|--------|---------|-------|---------|----------|
| MM REB RE00003 | BA15D  | 12V     | 5W    | 37,5 mm | 19 mm    |
| MM REB RE00004 | BA15D  | 24V     | 5W    | 37,5 mm | 19 mm    |

**BA15S ONE POLE BULB**

| Code           | Socket | Voltage | Power | Length  | Diameter |
|----------------|--------|---------|-------|---------|----------|
| MM REB RE00034 | BA15S  | 12V     | 5W    | 37,5 mm | 19 mm    |
| MM REB RE00035 | BA15S  | 24V     | 5W    | 37,5 mm | 19 mm    |
| MM REB RE00040 | BA15S  | 12V     | 10 W  | 37,5 mm | 19 mm    |
| MM REB RE00041 | BA15S  | 24V     | 10 W  | 37,5 mm | 19 mm    |



## HALOLUX T ECO



| Code         | Product                      | Nominal luminous flux | Rated luminous flux | Base (standard designation) | Rated wattage | Nominal wattage |
|--------------|------------------------------|-----------------------|---------------------|-----------------------------|---------------|-----------------|
| MM OSR 64860 | HALOLUX T ECO 25 W 230 V E14 | 260 lm                | 260 lm              | E14                         | 25 W          | 25 W            |
| MM OSR 64861 | HALOLUX T ECO 40 W 230 V E14 | 490 lm                | 490 lm              | E14                         | 40 W          | 40 W            |
| MM OSR 64862 | HALOLUX T ECO 60 W 230 V E14 | 820 lm                | 820 lm              | E14                         | 60 W          | 60 W            |



## HALOPIN ECO SUPERSTAR



| Code         | Product                       | Nominal luminous flux | Rated luminous flux | Base (standard designation) | Rated wattage | Nominal wattage |
|--------------|-------------------------------|-----------------------|---------------------|-----------------------------|---------------|-----------------|
| MM OSR 66748 | HALOPIN ECO SST 48 W 230 V G9 | 740 lm                | 740 lm              | G9                          | 48 W          | 48 W            |
| MM OSR 66733 | HALOPIN ECO SST 33 W 230 V G9 | 460 lm                | 460 lm              | G9                          | 33 W          | 33 W            |
| MM OSR 66733 | HALOPIN ECO SST 33 W 240 V G9 | 460 lm                | 460 lm              | G9                          | 33 W          | 33 W            |
| MM OSR 66720 | HALOPIN ECO SST 20 W 230 V G9 | 235 lm                | 235 lm              | G9                          | 20 W          | 20 W            |
| MM OSR 66720 | HALOPIN ECO SST 20 W 240 V G9 | 235 lm                | 235 lm              | G9                          | 20 W          | 20 W            |



## HALOPIN ECO



| Code         | Product                   | Nominal luminous flux | Rated luminous flux | Base (standard designation) | Rated wattage | Nominal wattage |
|--------------|---------------------------|-----------------------|---------------------|-----------------------------|---------------|-----------------|
| MM OSR 66720 | HALOPIN ECO 20 W 230 V G9 | 235 lm                | 235 lm              | G9                          | 20 W          | 20 W            |
| MM OSR 66720 | HALOPIN ECO 20 W 240 V G9 | 235 lm                | 235 lm              | G9                          | 20 W          | 20 W            |
| MM OSR 66733 | HALOPIN ECO 33 W 230 V G9 |                       | 460 lm              | G9                          | 33 W          | 33 W            |
| MM OSR 66733 | HALOPIN ECO 33 W 240 V G9 | 460 lm                | 460 lm              | G9                          | 33 W          | 33 W            |
| MM OSR 66748 | HALOPIN ECO 48 W 230 V G9 | 740 lm                | 740 lm              | G9                          | 48 W          | 48 W            |
| MM OSR 66748 | HALOPIN ECO 48 W 230 V G9 | 740 lm                | 740 lm              | G9                          | 48 W          | 48 W            |
| MM OSR 66760 | HALOPIN ECO 60 W 230 V G9 | 980 lm                | 980 lm              | G9                          | 60 W          | 60 W            |
| MM OSR 66760 | HALOPIN ECO 60 W 240 V G9 | 980 lm                | 980 lm              | G9                          | 60 W          | 60 W            |



## HALOLINE ECO SUPERSTAR



| Code         | Product                          | Nominal luminous flux | Rated luminous flux | Base (standard designation) | Rated wattage | Nominal wattage |
|--------------|----------------------------------|-----------------------|---------------------|-----------------------------|---------------|-----------------|
| MM OSR 64684 | HALOLINE ECO SST 48 W 230 V R7S  | 750 lm                | 750 lm              | R7s                         | 48 W          | 48 W            |
| MM OSR 64684 | HALOLINE ECO SST 48 W 240 V R7S  | 750 lm                | 750 lm              | R7s                         | 48 W          | 48 W            |
| MM OSR 64690 | HALOLINE ECO SST 80 W 230 V R7S  | 1400 lm               | 1400 lm             | R7s                         | 80 W          | 80 W            |
| MM OSR 64690 | HALOLINE ECO SST 80 W 240 V R7S  | 1400 lm               | 1400 lm             | R7s                         | 80 W          | 80 W            |
| MM OSR 64695 | HALOLINE ECO SST 120 W 230 V R7S | 2250 lm               | 2250 lm             | R7s                         | 120 W         | 120 W           |
| MM OSR 64696 | HALOLINE ECO SST 120 W 230 V R7S | 2250 lm               | 2250 lm             | R7s                         | 120 W         | 120 W           |
| MM OSR 64695 | HALOLINE ECO SST 120 W 240 V R7S | 2250 lm               | 2250 lm             | R7s                         | 120 W         | 120 W           |
| MM OSR 64696 | HALOLINE ECO SST 120 W 240 V R7S | 2250 lm               | 2250 lm             | R7s                         | 120 W         | 120 W           |
| MM OSR 64698 | HALOLINE ECO SST 160 W 230 V R7S | 3100 lm               | 3100 lm             | R7s                         | 160 W         | 160 W           |
| MM OSR 64698 | HALOLINE ECO SST 160 W 240 V R7S | 3100 lm               | 3100 lm             | R7s                         | 160 W         | 160 W           |
| MM OSR 64701 | HALOLINE ECO SST 230 W 240 V R7S | 5000 lm               | 5000 lm             | R7s                         | 230 W         | 230 W           |
| MM OSR 64702 | HALOLINE ECO SST 400 W 240 V R7S | 9000 lm               | 9000 lm             | R7s                         | 400 W         | 400 W           |



## HALOSTAR ECO SUPERSTAR



| Code         | Product                           | Nominal luminous flux | Rated luminous flux | Base (standard designation) | Rated wattage | Nominal wattage |
|--------------|-----------------------------------|-----------------------|---------------------|-----------------------------|---------------|-----------------|
| MM OSR 67417 | HALOSTAR ECO SST 7 W 12 V G4      | 95 lm                 | 95 lm               | G4                          | 7 W           | 7 W             |
| MM OSR 67423 | HALOSTAR ECO SST 14 W 12 V G4     | 230 lm                | 230 lm              | G4                          | 14 W          | 14 W            |
| MM OSR 67429 | HALOSTAR ECO SST 25 W 12 V GY6.35 | 440 lm                | 440 lm              | GY6.35                      | 25 W          | 25 W            |
| MM OSR 67432 | HALOSTAR ECO SST 35 W 12 V GY6.35 | 670 lm                | 670 lm              | GY6.35                      | 35 W          | 35 W            |



## HALOSTAR ECO



| Code         | Product                       | Nominal luminous flux | Rated luminous flux | Base (standard designation) | Rated wattage | Nominal wattage |
|--------------|-------------------------------|-----------------------|---------------------|-----------------------------|---------------|-----------------|
| MM OSR 64417 | HALOSTAR ECO 7 W 12 V G4      | 105 lm                | 105 lm              | G4                          | 7 W           | 7 W             |
| MM OSR 64423 | HALOSTAR ECO 14 W 12 V G4     | 240 lm                | 240 lm              | G4                          | 14 W          | 14 W            |
| MM OSR 64429 | HALOSTAR ECO 25 W 12 V GY6.35 | 500 lm                | 500 lm              | GY6.35                      | 25 W          | 25 W            |
| MM OSR 64432 | HALOSTAR ECO 35 W 12 V GY6.35 | 860 lm                | 860 lm              | GY6.35                      | 35 W          | 35 W            |
| MM OSR 64440 | HALOSTAR ECO 50 W 12 V GY6.35 | 1180 lm               | 1180 lm             | GY6.35                      | 50 W          | 50 W            |
| MM OSR 64447 | HALOSTAR ECO 60 W 12 V GY6.35 | 1650 lm               | 1650 lm             | GY6.35                      | 60 W          | 60 W            |

## OTHER BULB LIGHTS AVAILABLE UPON REQUEST

Please specify: - Volt  
- Watt  
- Connection





### OSRAM DULUXSTAR STICK



| Code                 | Product                            | Rated wattage | Nominal wattage | Base (standard designation) | Rated luminous flux |
|----------------------|------------------------------------|---------------|-----------------|-----------------------------|---------------------|
| MM OSR DULST82711E14 | OSRAM DULUXSTAR STICK 11 W/827 E14 | 11 W          | 11 W            | E14                         | 600 lm              |
| MM OSR DULST82711E27 | OSRAM DULUXSTAR STICK 11 W/827 E27 | 11 W          | 11 W            | E27                         | 600 lm              |
| MM OSR DULST86511E14 | OSRAM DULUXSTAR STICK 11 W/865 E14 | 11 W          | 11 W            | E14                         | 540 lm              |
| MM OSR DULST86511E27 | OSRAM DULUXSTAR STICK 11 W/865 E27 | 11 W          | 11 W            | E27                         | 550 lm              |
| MM OSR DULST82715E27 | OSRAM DULUXSTAR STICK 15 W/827 E27 | 15 W          | 15 W            | E27                         | 840 lm              |
| MM OSR DULST86515E27 | OSRAM DULUXSTAR STICK 15 W/865 E27 | 15 W          | 15 W            | E27                         | 800 lm              |
| MM OSR DULST82720E27 | OSRAM DULUXSTAR STICK 20 W/827 E27 | 20 W          | 20 W            | E27                         | 1160 lm             |
| MM OSR DULST86520E27 | OSRAM DULUXSTAR STICK 20 W/865 E27 | 20 W          | 20 W            | E27                         | 1170 lm             |



### OSRAM DULUXSTAR MINI TWIST



| Code                  | Product                                  | Rated wattage | Nominal wattage | Base (standard designation) | Claimed equiv. conventional lamp power | Rated luminous flux |
|-----------------------|------------------------------------------|---------------|-----------------|-----------------------------|----------------------------------------|---------------------|
| MM OSR DULMT82711B22D | OSRAM DULUXSTAR MINI TWIST 11 W/827 B22D | 11 W          | 11 W            | B22d                        | 54 W                                   | 650 lm              |
| MM OSR DULMT82711E14  | OSRAM DULUXSTAR MINI TWIST 11 W/827 E14  | 11 W          | 11 W            | E14                         | 54 W                                   | 650 lm              |
| MM OSR DULMT82711E27  | OSRAM DULUXSTAR MINI TWIST 11 W/827 E27  | 11 W          | 11 W            | E27                         | 54 W                                   | 650 lm              |
| MM OSR DULMT86511E14  | OSRAM DULUXSTAR MINI TWIST 11 W/865 E14  | 11 W          | 11 W            | E14                         | 51 W                                   | 600 lm              |
| MM OSR DULMT86511E27  | OSRAM DULUXSTAR MINI TWIST 11 W/865 E27  | 11 W          | 11 W            | E27                         | 51 W                                   | 600 lm              |
| MM OSR DULMT82713B22D | OSRAM DULUXSTAR MINI TWIST 13 W/827 B22D | 13 W          | 13 W            | B22d                        | 63 W                                   | 835 lm              |
| MM OSR DULMT82713E27  | OSRAM DULUXSTAR MINI TWIST 13 W/827 E27  | 13 W          | 13 W            | E27                         | 63 W                                   | 780 lm              |
| MM OSR DULMT86513E27  | OSRAM DULUXSTAR MINI TWIST 13 W/865 E27  | 13 W          | 13 W            | E27                         | 61 W                                   | 800 lm              |
| MM OSR DULMT82718B22D | OSRAM DULUXSTAR MINI TWIST 18 W/827 B22D | 18 W          | 18 W            | B22d                        | 86 W                                   | 1150 lm             |
| MM OSR DULMT82718E27  | OSRAM DULUXSTAR MINI TWIST 18 W/827 E27  | 18 W          | 18 W            | E27                         | 86 W                                   | 1150 lm             |
| MM OSR DULMT86518E27  | OSRAM DULUXSTAR MINI TWIST 18 W/865 E27  | 18 W          | 18 W            | E27                         | 83 W                                   | 1100 lm             |
| MM OSR DULMT82723B22D | OSRAM DULUXSTAR MINI TWIST 23 W/827 B22D | 23 W          | 23 W            | B22d                        | 107 W                                  | 1520 lm             |
| MM OSR DULMT82723E27  | OSRAM DULUXSTAR MINI TWIST 23 W/827 E27  | 23 W          | 23 W            | E27                         | 107 W                                  | 1520 lm             |
| MM OSR DULMT86523E27  | OSRAM DULUXSTAR MINI TWIST 23 W/865 E27  | 23 W          | 23 W            | E27                         | 101 W                                  | 1420 lm             |



### OSRAM DULUXSTAR CLASSIC A



| Code                  | Product                                | Rated wattage | Nominal wattage | Base (standard designation) | Claimed equiv. conventional lamp power | Rated luminous flux |
|-----------------------|----------------------------------------|---------------|-----------------|-----------------------------|----------------------------------------|---------------------|
| MM OSR DULCLA82711E27 | OSRAM DULUXSTAR CLASSIC A 11 W/827 E27 | 11 W          | 11 W            | E27                         |                                        | 540 lm              |
| MM OSR DULCLA82715E27 | OSRAM DULUXSTAR CLASSIC A 15 W/827 E27 | 15 W          | 15 W            | E27                         | 64 W                                   | 800 lm              |
| MM OSR DULCLA82720E27 | OSRAM DULUXSTAR CLASSIC A 20 W/827 E27 | 20 W          | 20 W            | E27                         | 84 W                                   | 1152 lm             |



### OSRAM DULUXSTAR CLASSIC B



| Code                 | Product                               | Rated wattage | Nominal wattage | Base (standard designation) | Claimed equiv. conventional lamp power | Rated luminous flux |
|----------------------|---------------------------------------|---------------|-----------------|-----------------------------|----------------------------------------|---------------------|
| MM OSR DULCLB8275E27 | OSRAM DULUXSTAR CLASSIC B 5 W/827 E14 | 5 W           | 5 W             | E14                         | 22 W                                   | 200 lm              |
| MM OSR DULCLB8279E27 | OSRAM DULUXSTAR CLASSIC B 9 W/827 E14 | 9 W           | 9 W             | E14                         |                                        | 405 lm              |



## LUMILUX T5 HE



| Code                 | Product              | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|----------------------|----------------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR LUMT5HE14W827 | HE 14 W/827          | 14 W            | >=80                     | 1200 lm                | 1350 lm                | 2700 K            |
| MM OSR LUMT5HE14W830 | HE 14 W/830          | 14 W            | >=80                     | 1200 lm                | 1350 lm                | 3000 K            |
| MM OSR LUMT5HE14W835 | HE 14 W/835          | 14 W            | >=80                     | 1200 lm                | 1350 lm                | 3500 K            |
| MM OSR LUMT5HE14W840 | HE 14 W/840          | 14 W            | >=80                     | 1200 lm                | 1350 lm                | 4000 K            |
| MM OSR LUMT5HE14W865 | HE 14 W/865          | 14 W            | >=80                     | 1100 lm                | 1300 lm                | 6500 K            |
| MM OSR LUMT5HE14W880 | HE 14 W/880 SKYWHITE | 14 W            | >=80                     | 1080 lm                | 1150 lm                | 8000 K            |
| MM OSR LUMT5HE21W827 | HE 21 W/827          | 21 W            | >=80                     | 1900 lm                | 2100 lm                | 2700 K            |
| MM OSR LUMT5HE21W830 | HE 21 W/830          | 21 W            | >=80                     | 1900 lm                | 2100 lm                | 3000 K            |
| MM OSR LUMT5HE21W835 | HE 21 W/835          | 21 W            | >=80                     | 1900 lm                | 2100 lm                | 3500 K            |
| MM OSR LUMT5HE21W840 | HE 21 W/840          | 21 W            | >=80                     | 1900 lm                | 2100 lm                | 4000 K            |
| MM OSR LUMT5HE21W865 | HE 21 W/865          | 21 W            | >=80                     | 1750 lm                | 2000 lm                | 6500 K            |
| MM OSR LUMT5HE21W880 | HE 21 W/880 SKYWHITE | 21 W            | >=80                     | 1700 lm                | 1850 lm                | 8000 K            |
| MM OSR LUMT5HE28W827 | HE 28 W/827          | 28 W            | >=80                     | 2600 lm                | 2900 lm                | 2700 K            |
| MM OSR LUMT5HE28W830 | HE 28 W/830          | 28 W            | >=80                     | 2600 lm                | 2900 lm                | 3000 K            |
| MM OSR LUMT5HE28W835 | HE 28 W/835          | 28 W            | >=80                     | 2600 lm                | 2900 lm                | 3500 K            |
| MM OSR LUMT5HE28W840 | HE 28 W/840          | 28 W            | >=80                     | 2600 lm                | 2900 lm                | 4000 K            |
| MM OSR LUMT5HE28W850 | HE 28 W/850          | 28 W            | >=80                     |                        | 2500 lm                | 5000 K            |
| MM OSR LUMT5HE28W865 | HE 28 W/865          | 28 W            | >=80                     | 2400 lm                | 2750 lm                | 6500 K            |
| MM OSR LUMT5HE28W880 | HE 28 W/880 SKYWHITE | 28 W            | >=80                     | 2350 lm                | 2690 lm                | 8000 K            |
| MM OSR LUMT5HE35W827 | HE 35 W/827          | 35 W            | >=80                     | 3320 lm                | 3650 lm                | 2700 K            |
| MM OSR LUMT5HE35W830 | HE 35 W/830          | 35 W            | >=80                     | 3320 lm                | 3650 lm                | 3000 K            |
| MM OSR LUMT5HE35W835 | HE 35 W/835          | 35 W            | >=80                     | 3320 lm                | 3650 lm                | 3500 K            |
| MM OSR LUMT5HE35W840 | HE 35 W/840          | 35 W            | >=80                     | 3320 lm                | 3650 lm                | 4000 K            |
| MM OSR LUMT5HE35W865 | HE 35 W/865          | 35 W            | >=80                     | 3050 lm                | 3500 lm                | 6500 K            |
| MM OSR LUMT5HE35W880 | HE 35 W/880 SKYWHITE | 35 W            | >=80                     | 3000 lm                | 3450 lm                | 8000 K            |



## LUMILUX T5 HO XT



| Code                 | Product        | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|----------------------|----------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR LUMHOXT49W827 | HO XT 49 W/827 | 49 W            | >=80                     | 4300 lm                | 4900 lm                | 2700 K            |
| MM OSR LUMHOXT49W830 | HO XT 49 W/830 | 49 W            | >=80                     | 4300 lm                | 4900 lm                | 3000 K            |
| MM OSR LUMHOXT49W840 | HO XT 49 W/840 | 49 W            | >=80                     | 4300 lm                | 4900 lm                | 4000 K            |
| MM OSR LUMHOXT49W865 | HO XT 49 W/865 | 49 W            | >=80                     | 4100 lm                | 4900 lm                | 6500 K            |
| MM OSR LUMHOXT54W827 | HO XT 54 W/827 | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 2700 K            |
| MM OSR LUMHOXT54W830 | HO XT 54 W/830 | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 3000 K            |
| MM OSR LUMHOXT54W840 | HO XT 54 W/840 | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 4000 K            |
| MM OSR LUMHOXT54W865 | HO XT 54 W/865 | 54 W            | >=80                     | 4100 lm                | 5000 lm                | 6500 K            |
| MM OSR LUMHOXT80W827 | HO XT 80 W/827 | 80 W            | >=80                     | 6150 lm                | 7000 lm                | 2700 K            |
| MM OSR LUMHOXT80W830 | HO XT 80 W/830 | 80 W            | >=80                     | 6150 lm                | 7000 lm                | 3000 K            |
| MM OSR LUMHOXT80W840 | HO XT 80 W/840 | 80 W            | >=80                     | 6150 lm                | 7000 lm                | 4000 K            |
| MM OSR LUMHOXT80W865 | HO XT 80 W/865 | 80 W            | >=80                     | 5700 lm                | 6650 lm                | 6500 K            |



## LUMILUX T5 HO

## BULBS



| Code                 | Product              | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|----------------------|----------------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR LUMT5HO24W827 | HO 24 W/827          | 24 W            | >=80                     | 1750 lm                | 2000 lm                | 2700 K            |
| MM OSR LUMT5HO24W830 | HO 24 W/830          | 24 W            | >=80                     | 1750 lm                | 2000 lm                | 3000 K            |
| MM OSR LUMT5HO24W835 | HO 24 W/835          | 24 W            | >=80                     | 1750 lm                | 2000 lm                | 3500 K            |
| MM OSR LUMT5HO24W840 | HO 24 W/840          | 24 W            | >=80                     | 1750 lm                | 2000 lm                | 4000 K            |
| MM OSR LUMT5HO24W865 | HO 24 W/865          | 24 W            | >=80                     | 1600 lm                | 1900 lm                | 6500 K            |
| MM OSR LUMT5HO24W880 | HO 24 W/880 SKYWHITE | 24 W            | >=80                     | 1550 lm                | 1750 lm                | 8000 K            |
| MM OSR LUMT5HO39W827 | HO 39 W/827          | 39 W            | >=80                     | 3100 lm                | 3500 lm                | 2700 K            |
| MM OSR LUMT5HO39W830 | HO 39 W/830          | 39 W            | >=80                     | 3100 lm                | 3500 lm                | 3000 K            |
| MM OSR LUMT5HO39W840 | HO 39 W/840          | 39 W            | >=80                     | 3100 lm                | 3500 lm                | 4000 K            |
| MM OSR LUMT5HO39W865 | HO 39 W/865          | 39 W            | >=80                     | 2850 lm                | 3325 lm                | 6500 K            |
| MM OSR LUMT5HO49W827 | HO 49 W/827          | 49 W            | >=80                     | 4310 lm                | 4900 lm                | 2700 K            |
| MM OSR LUMT5HO49W830 | HO 49 W/830          | 49 W            | >=80                     | 4310 lm                | 4900 lm                | 3000 K            |
| MM OSR LUMT5HO49W840 | HO 49 W/840          | 49 W            | >=80                     | 4310 lm                | 4900 lm                | 4000 K            |
| MM OSR LUMT5HO49W865 | HO 49 W/865          | 49 W            | >=80                     | 4100 lm                | 4600 lm                | 6500 K            |
| MM OSR LUMT5HO49W880 | HO 49 W/880 SKYWHITE | 49 W            | >=80                     | 4050 lm                | 4610 lm                | 8000 K            |
| MM OSR LUMT5HO54W827 | HO 54 W/827          | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 2700 K            |
| MM OSR LUMT5HO54W830 | HO 54 W/830          | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 3000 K            |
| MM OSR LUMT5HO54W835 | HO 54 W/835          | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 3500 K            |
| MM OSR LUMT5HO54W840 | HO 54 W/840          | 54 W            | >=80                     | 4450 lm                | 5000 lm                | 4000 K            |
| MM OSR LUMT5HO54W865 | HO 54 W/865          | 54 W            | >=80                     | 4100 lm                | 4750 lm                | 6500 K            |
| MM OSR LUMT5HO54W880 | HO 54 W/880 SKYWHITE | 54 W            | >=80                     | 4500 lm                | 4500 lm                | 8000 K            |
| MM OSR LUMT5HO80W827 | HO 80 W/827          | 80 W            | >=80                     | 6150 lm                | 7000 lm                | 2700 K            |
| MM OSR LUMT5HO80W830 | HO 80 W/830          | 80 W            | >=80                     | 6150 lm                | 7000 lm                | 3000 K            |
| MM OSR LUMT5HO80W840 | HO 80 W/840          | 80 W            | >=80                     | 6150 lm                | 7000 lm                | 4000 K            |
| MM OSR LUMT5HO80W865 | HO 80 W/865          | 80 W            | >=80                     | 5700 lm                | 6650 lm                | 6500 K            |
| MM OSR LUMT5HO80W880 | HO 80 W/880 SKYWHITE | 80 W            | >=80                     | 5550 lm                | 6400 lm                | 8000 K            |



## LUMILUX T8



| Code              | Product             | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|-------------------|---------------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR LUMT10W827 | L 10 W/827          | 10 W            | >=80                     | 650 lm                 |                        | 2700 K            |
| MM OSR LUMT15W827 | L 15 W/827          | 15 W            | >=80                     | 950 lm                 |                        | 2700 K            |
| MM OSR LUMT15W830 | L 15 W/830          | 15 W            | >=80                     | 950 lm                 |                        | 3000 K            |
| MM OSR LUMT15W840 | L 15 W/840          | 15 W            | >=80                     | 950 lm                 |                        | 4000 K            |
| MM OSR LUMT15W865 | L 15 W/865          | 15 W            | >=80                     | 900 lm                 |                        | 6500 K            |
| MM OSR LUMT16W827 | L 16 W/827          | 16 W            | >=80                     | 1250 lm                |                        | 2700 K            |
| MM OSR LUMT16W840 | L 16 W/840          | 16 W            | >=80                     | 1250 lm                |                        | 4000 K            |
| MM OSR LUMT16W830 | L 16 W/830          | 16 W            | >80                      | 1250 lm                |                        |                   |
| MM OSR LUMT16W827 | L 18 W/827          | 18 W            | >=80                     | 1350 lm                |                        | 2700 K            |
| MM OSR LUMT18W830 | L 18 W/830          | 18 W            | >=80                     | 1350 lm                |                        | 3000 K            |
| MM OSR LUMT18W835 | L 18 W/835          | 18 W            | >=80                     | 1350 lm                |                        | 3500 K            |
| MM OSR LUMT18W840 | L 18 W/840          | 18 W            | >=80                     | 1350 lm                |                        | 4000 K            |
| MM OSR LUMT18W865 | L 18 W/865          | 18 W            | >80                      | 1300 lm                |                        | 6500 K            |
| MM OSR LUMT18W880 | L 18 W/880 SKYWHITE | 18 W            | >=80                     | 1300 lm                |                        | 8000 K            |
| MM OSR LUMT23W830 | L 23 W/830          | 23 W            | >=80                     | 1900 lm                |                        | 3000 K            |
| MM OSR LUMT23W840 | L 23 W/840          | 23 W            | >=80                     | 1900 lm                |                        | 4000 K            |
| MM OSR LUMT30W827 | L 30 W/827          | 30 W            | >=80                     | 2400 lm                |                        | 2700 K            |
| MM OSR LUMT30W830 | L 30 W/830          | 30 W            | >=80                     | 2400 lm                |                        | 3000 K            |
| MM OSR LUMT30W840 | L 30 W/840          | 30 W            | >=80                     | 2400 lm                |                        | 4000 K            |
| MM OSR LUMT30W865 | L 30 W/865          | 30 W            | >=80                     | 2350 lm                |                        | 6500 K            |
| MM OSR LUMT30W880 | L 30 W/880 SKYWHITE | 30 W            | >=80                     | 2350 lm                |                        | 8000 K            |
| MM OSR LUMT36W827 | L 36 W/827          | 36 W            | >=80                     | 3350 lm                |                        | 2700 K            |
| MM OSR LUMT36W830 | L 36 W/830          | 36 W            | >=80                     | 3350 lm                |                        | 3000 K            |
| MM OSR LUMT36W835 | L 36 W/835          | 36 W            | >=80                     | 3350 lm                |                        | 3500 K            |
| MM OSR LUMT36W840 | L 36 W/840          | 36 W            | >=80                     | 3350 lm                |                        | 4000 K            |
| MM OSR LUMT36W865 | L 36 W/865          | 36 W            | >=80                     | 3250 lm                |                        | 6500 K            |
| MM OSR LUMT36W880 | L 36 W/880 SKYWHITE | 36 W            | >=80                     | 3010 lm                |                        | 8000 K            |
| MM OSR LUMT38W830 | L 38 W/830          | 38 W            | >=80                     | 3300 lm                |                        | 3000 K            |
| MM OSR LUMT38W840 | L 38 W/840          | 38 W            | >=80                     | 3300 lm                |                        | 4000 K            |
| MM OSR LUMT58W827 | L 58 W/827          | 58 W            | >=80                     | 5200 lm                |                        | 2700 K            |
| MM OSR LUMT58W830 | L 58 W/830          | 58 W            | >=80                     | 5200 lm                |                        | 3000 K            |
| MM OSR LUMT58W835 | L 58 W/835          | 58 W            | >=80                     | 5200 lm                |                        | 3500 K            |
| MM OSR LUMT58W840 | L 58 W/840          | 58 W            | >=80                     | 5200 lm                |                        | 4000 K            |
| MM OSR LUMT58W865 | L 58 W/865          | 58 W            | >=80                     | 5000 lm                |                        | 6500 K            |
| MM OSR LUMT58W880 | L 58 W/880 SKYWHITE | 58 W            | >=80                     | 4900 lm                |                        | 8000 K            |
| MM OSR LUMT70W835 | L 70 W/835          | 70 W            | >=80                     | 6200 lm                |                        | 3500 K            |
| MM OSR LUMT70W840 | L 70 W/840          | 70 W            | >=80                     | 6200 lm                |                        | 4000 K            |



## LUMILUX T8 ES



| Code                 | Product       | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|----------------------|---------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR LUMT8ES16W830 | L ES 16 W/830 | 16 W            | >=80                     | 1050 lm                |                        | 3000 K            |
| MM OSR LUMT8ES16W840 | L ES 16 W/840 | 16 W            | >=80                     | 1050 lm                |                        | 4000 K            |
| MM OSR LUMT8ES32W830 | L ES 32 W/830 | 32 W            | >=80                     | 2500 lm                |                        | 3000 K            |
| MM OSR LUMT8ES32W840 | L ES 32 W/840 | 32 W            | >=80                     | 2500 lm                |                        | 4000 K            |
| MM OSR LUMT8ES51W830 | L ES 51 W/830 | 51 W            | >=80                     | 4200 lm                |                        | 3000 K            |
| MM OSR LUMT8ES51W840 | L ES 51 W/840 | 51 W            | >=80                     | 4200 lm                |                        | 4000 K            |



## SA-TYPE T12



| Code               | Product       | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|--------------------|---------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR SAT1220W640 | L SA 20 W/640 | 20 W            | >=60                     | 1200 lm                |                        | 4000 K            |
| MM OSR SAT1240W640 | L SA 40 W/640 | 40 W            | >=60                     | 3000 lm                |                        | 4000 K            |
| MM OSR SAT1265W640 | L SA 65 W/640 | 65 W            | >=60                     | 4800 lm                |                        | 4000 K            |



## XL-TYPE T12



| Code               | Product       | Nominal wattage | Color rendering index Ra | Luminous flux at 25 °C | Luminous flux at 35 °C | Color temperature |
|--------------------|---------------|-----------------|--------------------------|------------------------|------------------------|-------------------|
| MM OSR XLT1220W640 | L XL 20 W/640 | 20 W            | >=60                     | 940 lm                 |                        | 4100 K            |
| MM OSR XLT1240W640 | L XL 40 W/640 | 40 W            | >=60                     | 2300 lm                |                        | 4100 K            |
| MM OSR XLT1265W640 | L XL 65 W/640 | 65 W            | >=60                     | 4400 lm                |                        | 4100 K            |

## PHILIPS

## STARTERS



| Code       | Product     | Watts    | Volts |
|------------|-------------|----------|-------|
| MM PHI S12 | Starter S12 | 115-140W | 240 V |
| MM PHI S10 | Starter S10 | 4-65W    | 240 V |
| MM PHI S2  | Starter S2  | 4-22W    | 220 V |

## PHILIPS

## GERMICIDAL - TUV PL-L



| Code             | Product                | Length       | Bulb Shape | Connection   | Life    |
|------------------|------------------------|--------------|------------|--------------|---------|
| MM PHI 628787 40 | TUV PL-L 36W/4P 1CT    | 385 (max) mm | 2xT16      | 4 Pin - 2G11 | 9000 hr |
| MM PHI 633798 40 | TUV PL-L 55W/4P HF 1CT | 505 (max) mm | 2xT16      | 4 Pin - 2G11 | 9000 hr |
| MM PHI 624925 40 | TUV PL-L 55W/4P HF 1CT | 195 (max) mm | 2xT16      | 4 Pin - 2G11 | 9000 hr |

## PHILIPS

## GERMICIDAL - TUV T8



| Code             | Product        | Length          | Bulb Shape | Connection | Life    |
|------------------|----------------|-----------------|------------|------------|---------|
| MM PHI 895639 40 | TUV 10W SLV    | 331.5 (max) mm  | T26        | G13        | 9000 hr |
| MM PHI 618511 10 | TUV 75W HO 1SL | 1199.4 (max) mm | T26        | G13        | 9000 hr |
| MM PHI 618665 10 | TUV 55W HO 1SL | 894.6 (max) mm  | T26        | G13        | 9000 hr |
| MM PHI 726209 40 | TUV 30W 1SL    | 894.6 (max) mm  | T26        | G13        | 9000 hr |
| MM PHI 726179 40 | TUV 15W SLV    | 437.4 (max) mm  | T26        | G13        | 9000 hr |
| MM PHI 641618 40 | TUV 25W 1SL    | 437.4 (max) mm  | T26        | G13        | 9000 hr |
| MM PHI 618542 10 | TUV 36W SLV    | 1199.4 (max) mm | T26        | G13        | 9000 hr |

## PHILIPS

### GERMICIDAL - TUV PL-S



| Code             | Product             | Length       | Bulb Shape | Connection  | Life    |
|------------------|---------------------|--------------|------------|-------------|---------|
| MM PHI 618245 80 | TUV PL-S 9W/2P 1CT  | 129 (max) mm | 2xT12      | 2 Pin - G23 | 9000 hr |
| MM PHI 642486 80 | TUV PL-S 5W/2P 1CT  | 67 (max) mm  | 2xT12      | 2 Pin - G23 | 9000 hr |
| MM PHI 624888 80 | TUV PL-S 11W/2P 1CT | 198 (max) mm | 2xT12      | 2 Pin - G23 | 9000 hr |

## PHILIPS

### GERMICIDAL - TUV T5



| Code             | Product               | Length                                            | Bulb Shape | Connection            | Life    |
|------------------|-----------------------|---------------------------------------------------|------------|-----------------------|---------|
| MM PHI 642325 99 | TUV 64T5 HE 4P SE UNP | 1550.6 (min),<br>1553.6 (nom),<br>1556.6 (max) mm | T16        | 4 Pin attacco singolo | 9000 hr |
| MM PHI 869708 99 | TUV 36T5 HO 4P SE UNP | 845.4 (max) mm                                    | T16        | 4 Pin attacco singolo | 9000 hr |
| MM PHI 642318 99 | TUV 36T5 HE 4P SE UNP | 839.4 (min),<br>842.4 (nom),<br>845.4 (max) mm    | T16        | 4 Pin attacco singolo | 9000 hr |
| MM PHI 261311 99 | TUV 64T5 HO 4P SE UNP | 1555.2 (max) mm                                   | T16        | 4 Pin attacco singolo | 9000 hr |
| MM PHI 640369 99 | TUV 36T5 SP UNP       | 839.4 (min),<br>842.4 (nom),<br>845.4 (max) mm    | T16        | 4 Pin attacco singolo | 9000 hr |
| MM PHI 640796 99 | TUV 64T5 HE SP UNP    | 1550.6 (min),<br>1553.6 (nom),<br>1556.6 (max) mm | T16        | 4 Pin attacco singolo | 9000 hr |

## PHILIPS

### GERMICIDAL - TUV AMALGAM XPT SYSTEMS



| Code             | Product         | Length       | Bulb Shape | Connection | Life |
|------------------|-----------------|--------------|------------|------------|------|
| MM PHI 209436 05 | TUV 130W XPT SE | 842 (max) mm |            | G10.2q     |      |



### AUXILIARY CONTACTS

LADN11



LADN22



| Code            | Product                  |
|-----------------|--------------------------|
| MM DEM TLLADN02 | Auxiliary Contact LADN02 |
| MM DEM TLLADN11 | Auxiliary Contact LADN11 |
| MM DEM TLLADN20 | Auxiliary Contact LADN20 |
| MM DEM TLLADN22 | Auxiliary Contact LADN22 |

**BREAKERS, BLOCKS, RELAYS, SWITCHES**  
**ALSO AVAILABLE UPON REQUEST**

## 3F Filippi

### CEILING LIGHT FIXTURES - WATERPROOF AND CORROSION PROOF IP65



Normal

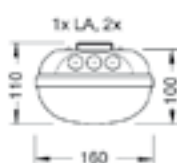
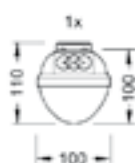


Transparent



Compact

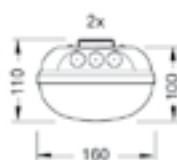
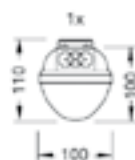
### 3F LINDA LED



| Electronic EEI A2 |                          |
|-------------------|--------------------------|
| Code              | Product                  |
| MM DEM3F 58561    | 3F Linda LED 1x12W L660  |
| MM DEM3F 58572    | 3F Linda LED 2x12W L660  |
| MM DEM3F 58583    | 3F Linda LED 1x24W L1270 |
| MM DEM3F 58594    | 3F Linda LED 2x24W L1270 |
| MM DEM3F 58605    | 3F Linda LED 1x30W L1570 |
| MM DEM3F 58616    | 3F Linda LED 2x30W L1570 |

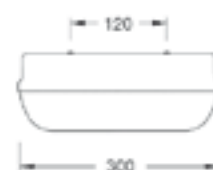
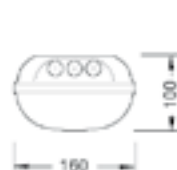
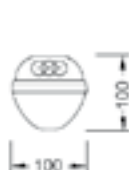
| Emergency, fuse     |                                |
|---------------------|--------------------------------|
| Code                | Product                        |
| MM DEM3F 58567      | 3F Linda LED 1x12W EP LA L660  |
| MM DEM3F 58578      | 3F Linda LED 2x12W EP L660     |
| MM DEM3F 58589      | 3F Linda LED 1x24W EP L1270    |
| MM DEM3F 58600      | 3F Linda LED 2x24W EP L1270    |
| MM DEM3F 58611      | 3F Linda LED 1x30W EP L1570    |
| MM DEM3F 58623      | 3F Linda LED 2x30W EP L1570    |
| ENP emergency, fuse |                                |
| MM DEM3F 58705      | 3F Linda LED 1x12W ENP LA L660 |
| MM DEM3F 58713      | 3F Linda LED 1x24W ENP L1270   |

### 3F LINDA LED TRANSPARENT



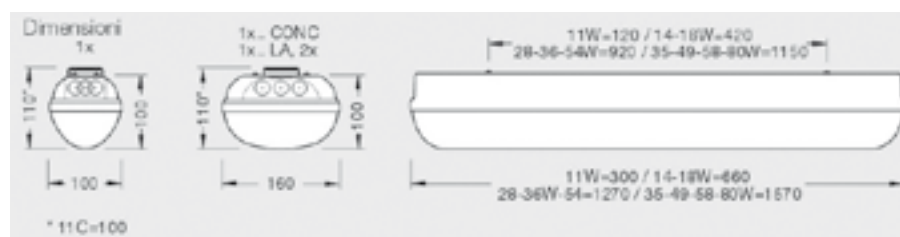
| Electronic EEI A2 |                                      |
|-------------------|--------------------------------------|
| Code              | Product                              |
| MM DEM3F 58806    | 3F Linda LED Trasparente 1x12W L660  |
| MM DEM3F 58808    | 3F Linda LED Trasparente 1x24W L1270 |
| MM DEM3F 58809    | 3F Linda LED Trasparente 2x24W L1270 |
| MM DEM3F 58810    | 3F Linda LED Trasparente 1x30W L1570 |
| MM DEM3F 58811    | 3F Linda LED Trasparente 2x30W L1570 |

### 3F LINDA COMPACT LED



| Electronic EEI A2 |                                    |
|-------------------|------------------------------------|
| Code              | Product                            |
| MM DEM3F 5790     | 3F Linda Compatta LED 1x5W 100x300 |
| MM DEM3F 5791     | 3F Linda Compatta LED 1x5W 160x300 |

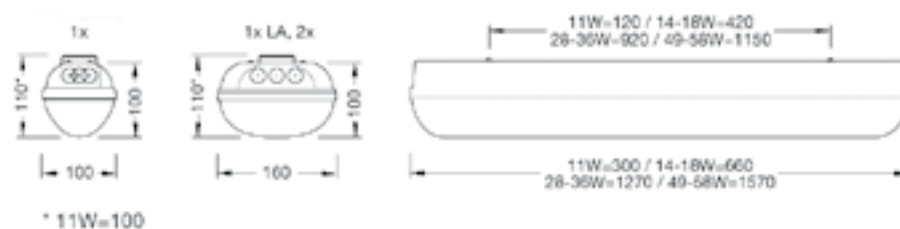


**3F LINDA****Starter EEI B2, fuse**

| Code          | Product       |
|---------------|---------------|
| MM DEM3F 5200 | 3F Linda 1x18 |
| MM DEM3F 5201 | 3F Linda 1x36 |
| MM DEM3F 5202 | 3F Linda 1x58 |
| MM DEM3F 5203 | 3F Linda 2x18 |
| MM DEM3F 5204 | 3F Linda 2x36 |
| MM DEM3F 5205 | 3F Linda 2x58 |

**Single-lamp version 160 mm wide**

| Code          | Product          |
|---------------|------------------|
| MM DEM3F 5206 | 3F Linda 1x18 LA |
| MM DEM3F 5207 | 3F Linda 1x36 LA |
| MM DEM3F 5208 | 3F Linda 1x58 LA |

**3F LINDA  
TRANSPARENT****T5 Electronic EEI A2**

| Code          | Product                         |
|---------------|---------------------------------|
| MM DEM3F 5361 | 3F Linda Trasparente 1x14 T5 HF |
| MM DEM3F 5363 | 3F Linda Trasparente 1x28 T5 HF |
| MM DEM3F 5365 | 3F Linda Trasparente 1x49 T5 HF |
| MM DEM3F 5374 | 3F Linda Trasparente 2x28 T5 HF |
| MM DEM3F 5376 | 3F Linda Trasparente 2x49 T5 HF |

**T8 Electronic EEI A2**

| Code          | Product                      |
|---------------|------------------------------|
| MM DEM3F 5350 | 3F Linda Trasparente 1x18 HF |
| MM DEM3F 5351 | 3F Linda Trasparente 1x36 HF |
| MM DEM3F 5352 | 3F Linda Trasparente 1x58 HF |
| MM DEM3F 5354 | 3F Linda Trasparente 2x36 HF |
| MM DEM3F 5355 | 3F Linda Trasparente 2x58 HF |

**3F LINDA HS**

3F Linda HS (Hard Skin) is a watertight polycarbonate luminaire with enhanced protection from corrosive chemicals.

**Electronic EEI A2**

| Code           | Product                   |
|----------------|---------------------------|
| MM DEM3F 53934 | 3F Linda HS 1x49 T5 LD HF |
| MM DEM3F 53956 | 3F Linda HS 2x49 T5 LD HF |

**3F LINDA  
EMERGENCY****Starter EEI B2 - Emergency, fuse**

| Code          | Product           |
|---------------|-------------------|
| MM DEM3F 5235 | 3F Linda 1x18 ENP |
| MM DEM3F 5236 | 3F Linda 1x18 EP  |
| MM DEM3F 5237 | 3F Linda 1x36 ENP |
| MM DEM3F 5238 | 3F Linda 1x36 EP  |
| MM DEM3F 5239 | 3F Linda 1x58 EP  |
| MM DEM3F 5240 | 3F Linda 2x18 EP  |
| MM DEM3F 5241 | 3F Linda 2x36 EP  |
| MM DEM3F 5242 | 3F Linda 2x58 EP  |

**Compact A starter EEI B2 - Emergency, fuse**

| Code          | Product               |
|---------------|-----------------------|
| MM DEM3F 5257 | 3F Linda 1x11 C ENP   |
| MM DEM3F 5259 | 3F Linda 1+1x11 C ENP |

## LIGHTING



### SEALED™ 75 UNDERWATER LIGHT



Voltage:  
Volts 10-30V DC AC  
I=0,48A@12V I=0,24A@24V

| Code                    | Materials                                                                  | Power           | Colours    |
|-------------------------|----------------------------------------------------------------------------|-----------------|------------|
| MM CLP 90SEALE752SSNW   | Stainless steel AISI 316<br>Fiberglass and Steel hulls                     | 2 x POWERLED 5W | cool white |
| MM CLP 90SEALE752SSNB   |                                                                            | 2 x POWERLED 5W | blue       |
| MM CLP 90SEALE752BRZWNW | Bronze<br>Fiberglass hulls                                                 | 2 x POWERLED 5W | cool white |
| MM CLP 90SEALE752BRZNB  |                                                                            | 2 x POWERLED 5W | blue       |
| MM CLP 90SEALE752ALNW   | Aluminium 5083<br>Fiberglass and Aluminium hulls                           | 2 x POWERLED 5W | cool white |
| MM CLP 90SEALE752ALNB   |                                                                            | 2 x POWERLED 5W | blue       |
| MM CLP 90SEALE752PPSNW  | PPS (polyphenylene sulfide resin)<br>Fiberglass, Aluminium and Steel hulls | 2 x POWERLED 5W | cool white |
| MM CLP 90SEALE752PPSNB  |                                                                            | 2 x POWERLED 5W | blue       |



### SEALED™ 120 UNDERWATER LIGHT



Voltage:  
Volts 10-30V DC AC  
I=0,94A@12V I=0,47A@24V

| Code                     | Materials                                                                  | Power           | Colours    |
|--------------------------|----------------------------------------------------------------------------|-----------------|------------|
| MM CLP 90SEALE1204SSNW   | Stainless steel AISI 316<br>Fiberglass and Steel hulls                     | 4 x POWERLED 5W | cool white |
| MM CLP 90SEALE1204SSNB   |                                                                            | 4 x POWERLED 5W | blue       |
| MM CLP 90SEALE1204BRZWNW | Bronze<br>Fiberglass hulls                                                 | 4 x POWERLED 5W | cool white |
| MM CLP 90SEALE1204BRZNB  |                                                                            | 4 x POWERLED 5W | blue       |
| MM CLP 90SEALE1204ALNW   | Aluminium 5083<br>Fiberglass and Aluminium hulls                           | 4 x POWERLED 5W | cool white |
| MM CLP 90SEALE1204ALNB   |                                                                            | 4 x POWERLED 5W | blue       |
| MM CLP 90SEALE1204PPSNW  | PPS (polyphenylene sulfide resin)<br>Fiberglass, Aluminium and Steel hulls | 4 x POWERLED 5W | cool white |
| MM CLP 90SEALE1204PPSNB  |                                                                            | 4 x POWERLED 5W | blue       |



### SEALED™ 160 UNDERWATER LIGHT



Voltage:  
Volts 20-30V DC AC  
I=0,9A@24V

| Code                     | Materials                                                                  | Power           | Colours    |
|--------------------------|----------------------------------------------------------------------------|-----------------|------------|
| MM CLP 90SEALE1608SSNW   | Stainless steel AISI 316<br>Fiberglass and Steel hulls                     | 8 x POWERLED 5W | cool white |
| MM CLP 90SEALE1608SSNB   |                                                                            | 8 x POWERLED 5W | blue       |
| MM CLP 90SEALE1608BRZWNW | Bronze<br>Fiberglass hulls                                                 | 8 x POWERLED 5W | cool white |
| MM CLP 90SEALE1608BRZNB  |                                                                            | 8 x POWERLED 5W | blue       |
| MM CLP 90SEALE1608ALNW   | Aluminium 5083<br>Fiberglass and Aluminium hulls                           | 8 x POWERLED 5W | cool white |
| MM CLP 90SEALE1608ALNB   |                                                                            | 8 x POWERLED 5W | blue       |
| MM CLP 90SEALE1608PPSNW  | PPS (polyphenylene sulfide resin)<br>Fiberglass, Aluminium and Steel hulls | 8 x POWERLED 5W | cool white |
| MM CLP 90SEALE1608PPSNB  |                                                                            | 8 x POWERLED 5W | blue       |


**VIAREGGIO Q - FOR INTERIORS - ADJUSTABLE - SANDED GLASS**


Voltage: 12-24V 20W max

Also available:  
POWERLED 6W@10/30V

| Code                 |           | Finishes                                             | Bulb       | Volts | Max watts |
|----------------------|-----------|------------------------------------------------------|------------|-------|-----------|
| MM CLP 20VIARE94GCHS | downlight | Chromium plated brass<br>Only for interiors          | 1 x G4 20W | 12/24 | 20        |
| MM CLP 306FAROQUADCH | frame     |                                                      |            |       |           |
| MM CLP 20VIARE94GLAS | downlight | White RAL 9010 lacquered brass<br>Only for interiors | 1 x G4 20W | 12/24 | 20        |
| MM CLP 306FAROQUADLA | frame     |                                                      |            |       |           |
| MM CLP 20VIARE94GF1S | downlight | Matt brushed nickel brass<br>Only for interiors      | 1 x G4 20W | 12/24 | 20        |
| MM CLP 306FAROQUADF1 | frame     |                                                      |            |       |           |
| MM CLP 20VIARE94GGOS | downlight | Gold plated brass<br>Only for interiors              | 1 x G4 20W | 12/24 | 20        |
| MM CLP 306FAROQUADGO | frame     |                                                      |            |       |           |


**VIAREGGIO - FOR INTERIORS - ADJUSTABLE - SANDED GLASS**


Voltage: 12-24V 20W max

Also available:  
POWERLED 6W@10/30V

| Code                 |  | Finishes                                             | Bulb       | Volts | Max watts |
|----------------------|--|------------------------------------------------------|------------|-------|-----------|
| MM CLP 20VIARE94GCHS |  | Chromium plated brass<br>Only for interiors          | 1 x G4 20W | 12/24 | 20        |
| MM CLP 20VIARE94GLAS |  | White RAL 9010 lacquered brass<br>Only for interiors | 1 x G4 20W | 12/24 | 20        |
| MM CLP 20VIARE94GF1S |  | Matt brushed nickel brass<br>Only for interiors      | 1 x G4 20W | 12/24 | 20        |
| MM CLP 20VIARE94GGOS |  | Gold plated brass<br>Only for interiors              | 1 x G4 20W | 12/24 | 20        |


**SIRIO - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED GLASS**


Voltage: 12-24V 20W max

| Code                 |  | Finishes                                                                 | Bulb       | Volts | Max watts |
|----------------------|--|--------------------------------------------------------------------------|------------|-------|-----------|
| MM CLP 20SIRIO80GSSS |  | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 1 x G4 20W | 12/24 | 20        |
| MM CLP 20SIRIO80GLAS |  | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 1 x G4 20W | 12/24 | 20        |
| MM CLP 20SIRIO80GF1S |  | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 1 x G4 20W | 12/24 | 20        |
| MM CLP 20SIRIO80GGOS |  | Gold plated AISI 316 s/steel<br>Only for interiors                       | 1 x G4 20W | 12/24 | 20        |


**MAGIC - FOR INTERIORS - SMALL DIMENSIONS - LOW CONSUMPTION - ADJUSTABLE - SANDED GLASS**


Voltage: 12-24V 10W max

| Code                 |  | Finishes                                             | Bulb       | Volts | Max watts |
|----------------------|--|------------------------------------------------------|------------|-------|-----------|
| MM CLP 20MAGIC65GCHS |  | Chromium plated brass<br>Only for interiors          | 1 x G4 10W | 12/24 | 10        |
| MM CLP 20MAGIC65GLAS |  | White RAL 9010 lacquered brass<br>Only for interiors | 1 x G4 10W | 12/24 | 10        |
| MM CLP 20MAGIC65GF1S |  | Matt brushed nickel brass<br>Only for interiors      | 1 x G4 10W | 12/24 | 10        |
| MM CLP 20MAGIC65GGOS |  | Gold plated brass<br>Only for interiors              | 1 x G4 10W | 12/24 | 10        |


**EROS - FOR INTERIORS - SMALL DIMENSIONS - LOW CONSUMPTION - ADJUSTABLE - SANDED GLASS**


Voltage: 12-24V 10W max

| Code                | Finishes                                             | Bulb       | Volts | Max watts |
|---------------------|------------------------------------------------------|------------|-------|-----------|
| MM CLP 20EROS65GCHS | Chromium plated brass<br>Only for interiors          | 1 x G4 10W | 12/24 | 10        |
| MM CLP 20EROS65GLAS | White RAL 9010 lacquered brass<br>Only for interiors | 1 x G4 10W | 12/24 | 10        |
| MM CLP 20EROS65GF1S | Matt brushed nickel brass<br>Only for interiors      | 1 x G4 10W | 12/24 | 10        |
| MM CLP 20EROS65GGOS | Gold plated brass<br>Only for interiors              | 1 x G4 10W | 12/24 | 10        |


**PEGASUS - FLEXIBLE - WITH SWITCH**


Voltage: 12-24V 10W max

| Code                  | Finishes                                        | Bulb       | Volts | Max watts |
|-----------------------|-------------------------------------------------|------------|-------|-----------|
| MM CLP 53PEGAS300GSCH | Chromium plated brass<br>Only for interiors     | 1 x G4 10W | 12/24 | 10        |
| MM CLP 53PEGAS300GSF1 | Matt brushed nickel brass<br>Only for interiors | 1 x G4 10W | 12/24 | 10        |
| MM CLP 53PEGAS300GSGO | Gold plated brass<br>Only for interiors         | 1 x G4 10W | 12/24 | 10        |


**TYPHOON - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED POLYCARBONATE**


Voltage: 12-24V 10W max

| Code              | Finishes                                                                 | Bulb       | Volts | Max watts |
|-------------------|--------------------------------------------------------------------------|------------|-------|-----------|
| MM CLP 10TYPHOGSS | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 1 x G4 20W | 12/24 | 20        |
| MM CLP 10TYPHOGLA | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 1 x G4 20W | 12/24 | 20        |
| MM CLP 10TYPHOGF1 | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 1 x G4 20W | 12/24 | 20        |
| MM CLP 10TYPHOGGO | Gold plated AISI 316 s/steel<br>Only for interiors                       | 1 x G4 20W | 12/24 | 20        |


**TORNADO - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED POLYCARBONATE**


Voltage: 12-24V 2W max

| Code                 | Finishes                                                                 | Bulb           | Volts | Max watts |
|----------------------|--------------------------------------------------------------------------|----------------|-------|-----------|
| MM CLP 30TORNAW2XSSW | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 1 x W2x4,6D 2W | 12/24 | 2         |
| MM CLP 30TORNAW2XF1W | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 1 x W2x4,6D 2W | 12/24 | 2         |
| MM CLP 30TORNAW2XGOW | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 1 x W2x4,6D 2W | 12/24 | 2         |
| MM CLP 30TORNAW2XLAW | Gold plated AISI 316 s/steel<br>Only for interiors                       | 1 x W2x4,6D 2W | 12/24 | 2         |


**FARO - FOR INTERIORS - ADJUSTABLE DOWNLIGHT**


Voltage: 110-230V 35W

| Code                 | Finishes                                             | Bulb         | Volts   | Max watts |
|----------------------|------------------------------------------------------|--------------|---------|-----------|
| MM CLP 20FARO94GZ1CH | Chromium plated brass<br>Only for interiors          | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 20FARO94GZ1F1 | White lacquered brass RAL 9010<br>Only for interiors | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 20FARO94GZ1GO | Matt brushed nickel brass<br>Only for interiors      | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 20FARO94GZ1LA | Gold plated brass<br>Only for interiors              | 1 x GZ10 35W | 110/230 | 35        |


**FARO Q - FOR INTERIORS - ADJUSTABLE DOWNLIGHT**


Voltage: 110-230V 35W

| Code                 | Finishes                                             | Bulb         | Volts   | Max watts |
|----------------------|------------------------------------------------------|--------------|---------|-----------|
| MM CLP 20FARO94GZ1CH | Chromium plated brass<br>Only for interiors          | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 306FAROQUADCH |                                                      |              |         |           |
| MM CLP 20FARO94GZ1LA | White lacquered brass RAL 9010<br>Only for interiors | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 306FAROQUADLA |                                                      |              |         |           |
| MM CLP 20FARO94GZ1F1 | Matt brushed nickel brass<br>Only for interiors      | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 306FAROQUADF1 |                                                      |              |         |           |
| MM CLP 20FARO94GZ1GO | Gold plated brass<br>Only for interiors              | 1 x GZ10 35W | 110/230 | 35        |
| MM CLP 306FAROQUADGO |                                                      |              |         |           |


**LUISELLA Ø235/45 - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED GLASS**


Voltage: 110-230V 2xPL7 7W  
110-230V 2xE14 25W

| Code                    | Finishes                                                                 | Bulb        | Volts   | Max watts |
|-------------------------|--------------------------------------------------------------------------|-------------|---------|-----------|
| MM CLP 10LUISE235L2P1SS | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10LUISE235L2P2SS |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10LUISE235L2EGSS |                                                                          | 2 x E14 25W | 110-230 | 50        |
| MM CLP 10LUISE235L2P1LA | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10LUISE235L2P2LA |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10LUISE235L2EGLA |                                                                          | 2 x E14 25W | 110-230 | 50        |
| MM CLP 10LUISE235L2P1F1 | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10LUISE235L2P2F1 |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10LUISE235L2EGF1 |                                                                          | 2 x E14 25W | 110-230 | 50        |
| MM CLP 10LUISE235L2P1GO | Gold plated AISI 316 s/steel<br>Only for interiors                       | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10LUISE235L2P2GO |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10LUISE235L2EGGO |                                                                          | 2 x E14 25W | 110-230 | 50        |


**LUISELLA Ø180/45 - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED GLASS**


Voltage: 110-230V 1xE14 25W  
Also available: 40W@12/24V

| Code                   | Finishes                                                                 | Bulb        | Volts   | Max watts |
|------------------------|--------------------------------------------------------------------------|-------------|---------|-----------|
| MM CLP 10LUISE180HEGSS | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 1 x E14 25W | 110/230 | 25        |
| MM CLP 10LUISE180HEGLA | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 1 x E14 25W | 110/230 | 25        |
| MM CLP 10LUISE180HEGF1 | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 1 x E14 25W | 110/230 | 25        |
| MM CLP 10LUISE180HEGGO | Gold plated AISI 316 s/steel<br>Only for interiors                       | 1 x E14 25W | 110/230 | 25        |


**CHARLY BOY Ø235/45 - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED GLASS**


Voltage: 110-230V 2xPL7 7W  
110-230V 2xE14 25W

| Code                    | Finishes                                                                 | Bulb        | Volts   | Max watts |
|-------------------------|--------------------------------------------------------------------------|-------------|---------|-----------|
| MM CLP 10CHARL235L2P1SS | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10CHARL235L2P2SS |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10CHARL235L2EGSS |                                                                          | 2 x E14 25W | 110-230 | 50        |
| MM CLP 10CHARL235L2P1LA | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10CHARL235L2P2LA |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10CHARL235L2EGLA |                                                                          | 2 x E14 25W | 110-230 | 50        |
| MM CLP 10CHARL235L2P1F1 | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10CHARL235L2P2F1 |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10CHARL235L2EGF1 |                                                                          | 2 x E14 25W | 110-230 | 50        |
| MM CLP 10CHARL235L2P1GO | Gold plated AISI 316 s/steel<br>Only for interiors                       | 2 x PL7 7W  | 110     | 14        |
| MM CLP 10CHARL235L2P2GO |                                                                          | 2 x PL7 7W  | 230     | 14        |
| MM CLP 10CHARL235L2EGGO |                                                                          | 2 x E14 25W | 110-230 | 50        |


**CHARLY BOY Ø180/45 - FOR INTERIORS AND EXTERIORS - RESISTANT TO THERMAL SHOCK - SANDED GLASS**


Voltage: 110-230V 1xE14 25W  
Also available: 40W@12/24V

| Code                   | Finishes                                                                 | Bulb        | Volts   | Max watts |
|------------------------|--------------------------------------------------------------------------|-------------|---------|-----------|
| MM CLP 10CHARL180HEGSS | Polished AISI 316 stainless steel<br>For interiors and exteriors         | 1 x E14 25W | 110/230 | 25        |
| MM CLP 10CHARL180HEGLA | White RAL 9010 lacquered AISI 316 s/steel<br>For interiors and exteriors | 1 x E14 25W | 110/230 | 25        |
| MM CLP 10CHARL180HEGF1 | Matt nickel plated AISI 316 s/steel<br>Only for interiors                | 1 x E14 25W | 110/230 | 25        |
| MM CLP 10CHARL180HEGGO | Gold plated AISI 316 s/steel<br>Only for interiors                       | 1 x E14 25W | 110/230 | 25        |


**PIXEL LED STRIP - ULTRAFLEXIBLE - DIMMABLE WITH DIMMER CLL - MONOCHROMATIC**


| Code                 | Colours    | Luminosity |                         | Power supply range | Consumption | Dimensions                        | Installation      | Min cut              | Power supply line max length           |
|----------------------|------------|------------|-------------------------|--------------------|-------------|-----------------------------------|-------------------|----------------------|----------------------------------------|
|                      |            | Surface    | Dist. 0,5 mt<br>19,7 in |                    |             |                                   |                   |                      |                                        |
| MM CLP 83PIXEL24WPW  | Cool white | 18.000 Lux | 92 Lux                  | 20-28 V DC         | 4,8 W/mt    | 13,5 mm<br>x 4,5 mm<br>x 3.000 mm | Clips or adhesive | 3,93 in or multiples | 236,22 in<br>(2 strips<br>x 118,11 in) |
| MM CLP 83PIXEL24WPWW | Warm white | 9.500 Lux  | 60 Lux                  |                    |             |                                   |                   |                      |                                        |
| MM CLP 83PIXEL24WPB  | Blue       | 10.000 Lux | 70 Lux                  |                    |             |                                   |                   |                      |                                        |


**PIXEL RGB LED STRIP - MULTICOLOR RGB - ULTRAFLEXIBLE - DIMMABLE WITH DIMMER CLL**


| Code                  | Colours | Luminosity |                         | Power supply range | Consumption   | Dimensions                        | Installation      | Min cut              | Power supply line max length |
|-----------------------|---------|------------|-------------------------|--------------------|---------------|-----------------------------------|-------------------|----------------------|------------------------------|
|                       |         | Surface    | Dist. 0,5 mt<br>19,7 in |                    |               |                                   |                   |                      |                              |
| MM CLP 83PIXEL24WPRGB | RGB     | 21.000 Lux | 270 Lux                 | 24 V DC +/- 10%*   | 14,4 W/mt max | 13,5 mm<br>x 4,5 mm<br>x 3.000 mm | Clips or adhesive | 3,93 in or multiples | 3.000 mm -<br>118,11 in      |

\* Needs a 3-way Dimmer CLL, stabilized voltage and RGB Control (touch screen or push button)


**ALUM ALUMINIUM LED STRIP - MONOCHROMATIC - DIMMABLE WITH DIMMER CLL**


| Code                | Colours    | Luminosity |                         | Power supply range                         | Consumption | Dimensions                     | Installation | Min cut               | Power supply line max length |
|---------------------|------------|------------|-------------------------|--------------------------------------------|-------------|--------------------------------|--------------|-----------------------|------------------------------|
|                     |            | Surface    | Dist. 0,5 mt<br>19,7 in |                                            |             |                                |              |                       |                              |
| MM CLP 83ALUM24WPW  | Cool white | 18.000 Lux | 92 Lux                  | 24 V DC +/- 5%<br>Needs stabilized voltage | 9 W/mt      | 24 mm<br>x 10 mm<br>x 1.000 mm | Clips        | 1.000 mm<br>- 39,3 in | 3.000 mm -<br>118,11 in      |
| MM CLP 83ALUM24WPWW | Warm white | 9.500 Lux  | 60 Lux                  |                                            |             |                                |              |                       |                              |
| MM CLP 83ALUM24WPB  | Blue       | 10.000 Lux | 70 Lux                  |                                            |             |                                |              |                       |                              |


**ECLIPSE LED TUBE - FLEXIBLE  
MONOCHROMATIC  
DIMMABLE WITH DIMMER CLL**


| Code                     | Colours    | Power supply range                         | Consumption | Dimensions                        | Installation | Min cut              | Power supply line max length |
|--------------------------|------------|--------------------------------------------|-------------|-----------------------------------|--------------|----------------------|------------------------------|
| MM CLP 83ECLIP112324WPW  | Cool white | 24 V DC +/- 5%<br>Needs stabilized voltage | 6,2 W/mt    | 11,5 mm<br>x 23 mm<br>x 10.000 mm | U brackets   | 2,95 in or multiples | 10.000 mm -<br>393,7 in      |
| MM CLP 83ECLIP112324WPWW | Warm white |                                            |             |                                   |              |                      |                              |
| MM CLP 83ECLIP112324WPB  | Blue       |                                            |             |                                   |              |                      |                              |



## TORCHES



### D-CELL FLASHLIGHTS



| Code           | Model                         | Overall Length         | Barrel Diameter        | Head Diameter         | Weight with battery | Batteries Required  |
|----------------|-------------------------------|------------------------|------------------------|-----------------------|---------------------|---------------------|
| MM MAG 2D-CELL | 2-cell D Mag-Lite® flashlight | 10 in.<br>254 mm       | 1-9/16 in.<br>39.67 mm | 2-1/4 in.<br>57.00 mm | 23 oz. 674 g        | (2) D size alkaline |
| MM MAG 3D-CELL | 3-cell D Mag-Lite® flashlight | 12-11/32 in.<br>313 mm | 1-9/16 in.<br>39.67 mm | 2-1/4 in.<br>57.00 mm | 30 oz. 856 g        | (3) D size alkaline |
| MM MAG 4D-CELL | 4-cell D Mag-Lite® flashlight | 14-23/32 in.<br>374 mm | 1-9/16 in.<br>39.67 mm | 2-1/4 in.<br>57.00 mm | 36 oz. 1043 g       | (4) D size alkaline |
| MM MAG 5D-CELL | 5-cell D Mag-Lite® flashlight | 17-1/8 in.<br>434 mm   | 1-9/16 in.<br>39.67 mm | 2-1/4 in.<br>57.00 mm | 43 oz. 1233 g       | (5) D size alkaline |
| MM MAG 6D-CELL | 6-cell D Mag-Lite® flashlight | 19-1/2 in.<br>495 mm   | 1-9/16 in.<br>39.67 mm | 2-1/4 in.<br>57.00 mm | 50 oz. 1417 g       | (6) D size alkaline |



### C-CELL FLASHLIGHTS



| Code           | Model                         | Overall Length         | Barrel Diameter       | Head Diameter         | Weight with battery | Batteries Required  |
|----------------|-------------------------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|
| MM MAG 2C-CELL | 2-cell C Mag-Lite® flashlight | 8-15/16 in.<br>227 mm  | 1-1/4 in.<br>31.75 mm | 2-1/4 in.<br>57.00 mm | 15 oz. 445 g        | (2) C size alkaline |
| MM MAG 3C-CELL | 3-cell C Mag-Lite® flashlight | 10-7/8 in.<br>276 mm   | 1-1/4 in.<br>31.75 mm | 2-1/4 in.<br>57.00 mm | 19 oz. 541 g        | (3) C size alkaline |
| MM MAG 4C-CELL | 4-cell C Mag-Lite® flashlight | 12-13/16 in.<br>325 mm | 1-1/4 in.<br>31.75 mm | 2-1/4 in.<br>57.00 mm | 22 oz. 637 g        | (4) C size alkaline |



### MAG CHARGER



Code: MM MAG GRX4019

### MAG CHARGER REPLACEMENT BATTERY



Code: MM MAG XX235

The New Mag Charger® Rechargeable flashlight system combines long famous MAG-LITE® beauty, reliability and beam-adjustability with a powerful New Halogen Lamp and New Electronic Switch which includes an array of USER-CONFIGURABLE FUNCTION SETS.

#### Specifications

Length: 12-19/32" (319.79 mm)  
 Barrel Diameter: 1-9/16" (39.67 mm)  
 Head Diameter: 2-5/16" (58.72 mm)  
 Weight with batteries: 32 oz. (907.18 g)

#### Package includes:

- Charging Cradle
- 120 Volt Converter
- 12 Volt Power Adapter
- NiMH Rechargeable Battery Pack
- Mounting Brackets (2)



| Code            | Light source | Batteries                 | Length        | Approvals | ANSI Standards                                            |
|-----------------|--------------|---------------------------|---------------|-----------|-----------------------------------------------------------|
| MM PEL 1910 LED | LED          | 1 AAA Alkaline (Included) | 3.6" (9.1 cm) | N/A       | Light output: 39 lumens<br>Runtime: 1h<br>Water resistant |

Colours



| Code            | Light source | Batteries                 | Length         | Approvals | ANSI Standards                                                   |
|-----------------|--------------|---------------------------|----------------|-----------|------------------------------------------------------------------|
| MM PEL 1920 LED | LED          | 2 AAA Alkaline (Included) | 5.3" (13.5 cm) | N/A       | Light output: 67 lumens<br>Runtime: 2h 45 min<br>Water resistant |

Colours



| Code                | Light source | Batteries                 | Length         | Approvals                                        | ANSI Standards                                                                 |
|---------------------|--------------|---------------------------|----------------|--------------------------------------------------|--------------------------------------------------------------------------------|
| MM PEL MITYLITE1900 | XENON        | 2 AAA Alkaline (Included) | 4.09" (10.4cm) | C1 D1<br>Ex ib e IIC T4 IP67 IEC Ex TSA 06.0021X | Light output: 11 lumens<br>Runtime: 1h 30 min<br>Waterproof & submersible 1 mt |

Colours



| Code                | Light source | Batteries                | Length         | Approvals | ANSI Standards                                                   |
|---------------------|--------------|--------------------------|----------------|-----------|------------------------------------------------------------------|
| MM PEL MITYLITE2300 | XENON        | 2 AA Alkaline (Included) | 5.62" (14.3cm) | CI D1     | Light output: 11 lumens<br>Runtime: 4h 30 min<br>Water resistant |

Colours



| Code                | Light source | Batteries                                    | Length         | Approvals                                        | ANSI Standards                                                   |
|---------------------|--------------|----------------------------------------------|----------------|--------------------------------------------------|------------------------------------------------------------------|
| MM PEL MITYLITE2340 | XENON        | 2 AA Alkaline (Included in select packaging) | 6.25" (15.9cm) | CI D1<br>Ex ib e IIC T4 IP67 IEC Ex TSA 06.0021X | Light output: 10 lumens<br>Runtime: 4h 30 min<br>Water resistant |

Colours



**PM6 3320**

| Code            | Light source | Batteries                  | Length         | Approvals | ANSI Standards                                                   |
|-----------------|--------------|----------------------------|----------------|-----------|------------------------------------------------------------------|
| MM PEL PM6 3320 | XENON        | 2 CR123 Lithium (Included) | 5.27" (13.4cm) | N/A       | Light output: 81 lumens<br>Runtime: 1h 30 min<br>Water resistant |

Colours

**M11 RECHARGEABLE 8050**

| Code            | Light source | Batteries           | Length          | Approvals | ANSI Standards                                                    |
|-----------------|--------------|---------------------|-----------------|-----------|-------------------------------------------------------------------|
| MM PEL M11 8050 | XENON        | 4C Ni-MH (Included) | 11.25" (28.6cm) | N/A       | Light output: 154 lumens<br>Runtime: 2h 15 min<br>Water resistant |

Colours

**M6 2330 LED**

| Code               | Light source | Batteries                  | Length       | Approvals | ANSI Standards                                             |
|--------------------|--------------|----------------------------|--------------|-----------|------------------------------------------------------------|
| MM PEL M6 2330 LED | LED          | 2 CR123 Lithium (Included) | 5.51" (14cm) | N/A       | Light output: 100 lumens<br>Runtime: 6h<br>Water resistant |

Colours

**2360 LED**

| Code            | Light source | Batteries                | Length        | Approvals | ANSI Standards                                                   |
|-----------------|--------------|--------------------------|---------------|-----------|------------------------------------------------------------------|
| MM PEL 2360 LED | LED          | 2 AA Alkaline (Included) | 6.1" (15.5cm) | N/A       | Light output: 94 lumens<br>Runtime: 2h 15 min<br>Water resistant |

Colours

**M6 3W 2390 LED**

| Code                  | Light source | Batteries                  | Length         | Approvals | ANSI Standards                                                   |
|-----------------------|--------------|----------------------------|----------------|-----------|------------------------------------------------------------------|
| MM PEL M6 3W 2390 LED | LED          | 2 CR123 Lithium (Included) | 5.31" (13.5cm) | N/A       | Light output: 94 lumens<br>Runtime: 2h 15 min<br>Water resistant |

Colours



**HEADS UP LITE™ 2620**

| Code                      | Light source              | Batteries                    | Length           | Approvals                      | ANSI Standards                                                  |                                                            |
|---------------------------|---------------------------|------------------------------|------------------|--------------------------------|-----------------------------------------------------------------|------------------------------------------------------------|
|                           |                           |                              |                  |                                | High                                                            | Low                                                        |
| MM PEL HEADS UP LITE 2620 | Xenon (high)<br>LED (low) | 3 AAA Alkaline<br>(Included) | 2.16"<br>(5.5cm) | C1 D1<br>II 3 G EEx nL IIC T3X | Light output: 26 lumens<br>Runtime: 2h 15min<br>Water resistant | Light output: 14 lumens<br>Runtime: 18h<br>Water resistant |

Colours

**HEADS UP LITE™ 2640**

| Code                      | Light source                | Batteries                   | Length           | Approvals                      | ANSI Standards                                                  |                                                            |
|---------------------------|-----------------------------|-----------------------------|------------------|--------------------------------|-----------------------------------------------------------------|------------------------------------------------------------|
|                           |                             |                             |                  |                                | High                                                            | Low                                                        |
| MM PEL HEADS UP LITE 2640 | Halogen (high)<br>LED (low) | 4 AA Alkaline<br>(Included) | 2.63"<br>(6.7cm) | C1 D2<br>II 3 G EEx nL IIC T3X | Light output: 29 lumens<br>Runtime: 2h 45min<br>Water resistant | Light output: 16 lumens<br>Runtime: 17h<br>Water resistant |

Colours

**HEADS UP LITE™ 2680 RECOIL™ LED**

| Code                      | Light source | Batteries                   | Length            | Approvals    | ANSI Standards                                                           |
|---------------------------|--------------|-----------------------------|-------------------|--------------|--------------------------------------------------------------------------|
| MM PEL HEADS UP LITE 2680 | Recoil™ LED  | 4 AA Alkaline<br>(Included) | 4.64"<br>(11.8cm) | C1 II III D2 | Light output: 79 lumens<br>Runtime: 10h<br>Waterproof & Submersible: 1 m |

Colours

**HEADSUP LITE™ 2710**

| Code                     | Light source | Batteries                    | Length        | Approvals | ANSI Standards                                            |                                                          |
|--------------------------|--------------|------------------------------|---------------|-----------|-----------------------------------------------------------|----------------------------------------------------------|
|                          |              |                              |               |           | High                                                      | Low                                                      |
| MM PEL HEADSUP LITE 2710 | LED          | 2 AAA Alkaline<br>(Included) | 2.58" (6,6cm) | N/A       | Light output: 24 lumens<br>Runtime: 2h<br>Water resistant | Light output: 7 lumens<br>Runtime: 5h<br>Water resistant |

Colours



**HEADSUP LITE™ 2720**

| Code                     | Light source | Batteries                 | Length        | Approvals | ANSI Standards                                            |                                                            |
|--------------------------|--------------|---------------------------|---------------|-----------|-----------------------------------------------------------|------------------------------------------------------------|
|                          |              |                           |               |           | High                                                      | Low                                                        |
| MM PEL HEADSUP LITE 2720 | LED          | 3 AAA Alkaline (Included) | 2.48" (6.3cm) | N/A       | Light output: 80 lumens<br>Runtime: 8h<br>Water resistant | Light output: 5 lumens<br>Runtime: 175h<br>Water resistant |

Colours

**MITY LITE™ 1900Z1**

| Code                    | Light source | Batteries             | Length          | Approvals                                            | ANSI Standards                                                                |
|-------------------------|--------------|-----------------------|-----------------|------------------------------------------------------|-------------------------------------------------------------------------------|
| MM PEL MITY LITE 1900Z1 | Xenon        | 2 Alkaline (Included) | 4.09" (10.4 cm) | II 2G Ex e ib IIB T4, II 2D Ex ibD 21<br>IP67 T100°C | Light output: 11 lumens<br>Runtime: 1h 30min<br>Waterproof & Submersible: 1 m |

Colours

**L1 1930Z0**

| Code             | Light source | Batteries                   | Length         | Approvals                                          | ANSI Standards                                                  |
|------------------|--------------|-----------------------------|----------------|----------------------------------------------------|-----------------------------------------------------------------|
| MM PEL L1 1930Z0 | LED          | 4 LR 44 Alkaline (Included) | 2.64" (6.7 cm) | II 1 GD Ex ia IIC T4 Ga Ex iaD 20<br>IP65 T90°C Da | Light output: 12 lumens<br>Runtime: 4h 15min<br>Water resistant |

Colours

**MITY LITE™ 1965Z0**

| Code                    | Light source | Batteries                 | Length          | Approvals                                          | ANSI Standards                                                          |
|-------------------------|--------------|---------------------------|-----------------|----------------------------------------------------|-------------------------------------------------------------------------|
| MM PEL MITY LITE 1965Z0 | LED          | 2 Alkaline AAA (Included) | 5.48" (13.9 cm) | II 1 GD Ex ia IIC T4 Ga Ex iaD 20<br>IP65 T90°C Da | Light output: 21 lumens<br>Runtime: 4h<br>Waterproof & Submersible: 1 m |

Colours

**SABRE LITE™ 2000Z1**

| Code                     | Light source | Batteries                   | Length          | Approvals             | ANSI Standards                                                          |
|--------------------------|--------------|-----------------------------|-----------------|-----------------------|-------------------------------------------------------------------------|
| MM PEL SABRE LITE 2000Z1 | Xenon        | 3 C Alkaline (Not included) | 7.79" (19.8 cm) | II 2 G Ex e ib IIC T4 | Light output: 39 lumens<br>Runtime: 6h<br>Waterproof & Submersible: 1 m |

Colours





| Code             | Light source | Batteries                      | Length            | Approvals | ANSI Standards                                                            |
|------------------|--------------|--------------------------------|-------------------|-----------|---------------------------------------------------------------------------|
| MM PEL NEMO 2000 | Xenon        | 3 C Alkaline<br>(Not included) | 7.79"<br>(19.8cm) | N/A       | Light output: 53 lumens<br>Runtime: 5h<br>Waterproof & submersible 100 mt |

Colours



| Code             | Light source | Batteries                   | Length            | Approvals | ANSI Standards                                                                  |
|------------------|--------------|-----------------------------|-------------------|-----------|---------------------------------------------------------------------------------|
| MM PEL NEMO 2400 | Xenon        | 4 AA Alkaline<br>(Included) | 6.49"<br>(16.5cm) | N/A       | Light output: 45 lumens<br>Runtime: 3h 45min<br>Waterproof & submersible 100 mt |

Colours



| Code             | Light source | Batteries                      | Length            | Approvals | ANSI Standards                                                             |
|------------------|--------------|--------------------------------|-------------------|-----------|----------------------------------------------------------------------------|
| MM PEL NEMO 4300 | Xenon        | 8 C Alkaline<br>(Not included) | 6.49"<br>(16.5cm) | N/A       | Light output: 175 lumens<br>Runtime: 6h<br>Waterproof & submersible 100 mt |

Colours



THE T1A TITAN®



| Code             | Max Output  | Low Output /<br>Runtime  | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|------------------|-------------|--------------------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR T1A TITAN | 70.0 lumens | 1.0 lumens /<br>60 hours | 1.0 hours         | 3.25 inches | 0.80 inches    | 2.0 ounces             | 1 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens



E1L OUTDOORSMAN



| Code                   | Max Output | Low Output /<br>Runtime | Tactical Runtime* | Length | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|------------------------|------------|-------------------------|-------------------|--------|----------------|------------------------|-----------|
| MM SUR E1L OUTDOORSMAN |            |                         |                   |        |                |                        |           |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**E1B BACKUP®**

| Code              | Max Output   | Low Output / Runtime  | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|-------------------|--------------|-----------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR E1B BACKUP | 110.0 lumens | 5.0 lumens / 37 hours | 1.3 hours         | 4.00 inches | 1.00 inches    | 2.8 ounces          | 1 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**L1 LUMAMAX®**

| Code              | Max Output  | Low Output / Runtime   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|-------------------|-------------|------------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR L1 LUMAMAX | 65.0 lumens | 10.0 lumens / 16 hours | 1.5 hours         | 4.50 inches | 1.00 inches    | 2.9 ounces          | 1 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**L4 LUMAMAX®**

| Code              | Max Output   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|-------------------|--------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR L4 LUMAMAX | 120.0 lumens | 2.0 hours         | 5.10 inches | 1.00 inches    | 3.4 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**STRATUM™**

| Code            | Output / Runtime        |                       |                       | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|-----------------|-------------------------|-----------------------|-----------------------|-------------------|-------------|----------------|---------------------|-----------|
|                 | High                    | Medium                | Low                   |                   |             |                |                     |           |
| MM SUR STRATUM™ | 160.0 lumens / 2 hours* | 50.0 lumens / 5 hours | 5.0 lumens / 75 hours | 2.0 hours         | 5.10 inches | 1.25 inches    | 5.5 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**6PX™ PRO**

| Code           | Max Output   | Low Output / Runtime   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|----------------|--------------|------------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR 6PX PRO | 200.0 lumens | 15.0 lumens / 45 hours | 2.0 hours         | 5.20 inches | 1.25 inches    | 5.2 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**G2® LED**

| Code          | Max Output   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|---------------|--------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR G2 LED | 120.0 lumens | 2.0 hours         | 5.20 inches | 1.25 inches    | 4.4 ounces             | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**6PX™ TACTICAL**

| Code                | Max Output   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|---------------------|--------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR 6PX TACTICAL | 120.0 lumens | 2.0 hours         | 5.20 inches | 1.25 inches    | 5.2 ounces             | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**G2X™ PRO**

| Code          | Max Output   | Low Output /<br>Runtime   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|---------------|--------------|---------------------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR G2 PRO | 200.0 lumens | 15.0 lumens /<br>45 hours | 2.0 hours         | 5.20 inches | 1.25 inches    | 4.4 ounces             | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**G2X™ TACTICAL**

| Code                | Max Output   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|---------------------|--------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR G2X TACTICAL | 200.0 lumens | 2.0 hours         | 5.20 inches | 1.25 inches    | 4.4 ounces             | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**A2 LED AVIATOR®**

| Code                  | Max Output   | Low Output /<br>Runtime   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|-----------------------|--------------|---------------------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR A2 LED AVIATOR | 120.0 lumens | 10.0 lumens /<br>15 hours | 2.0 hours         | 5.40 inches | 1.13 inches    | 4.3 ounces             | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**6P® LED**

| Code          | Max Output   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/<br>Batteries | Batteries |
|---------------|--------------|-------------------|-------------|----------------|------------------------|-----------|
| MM SUR 6P LED | 120.0 lumens | 2.0 hours         | 5.40 inches | 1.25 inches    | 5.2 ounces             | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens



**LX2 LUMAMAX®**

| Code               | Max Output   | Low Output / Runtime   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|--------------------|--------------|------------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR LX2 LUMAMAX | 200.0 lumens | 15.0 lumens / 30 hours | 2.0 hours         | 5.40 inches | 1.00 inches    | 4.2 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**E2D LED DEFENDER®**

| Code                    | Max Output   | Low Output / Runtime  | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|-------------------------|--------------|-----------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR E2D LED DEFENDER | 200.0 lumens | 5.0 lumens / 76 hours | 1.9 hours         | 5.40 inches | 1.00 inches    | 3.7 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**E2L OUTDOORSMAN**

| Code                   | Max Output  | Low Output / Runtime   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|------------------------|-------------|------------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR E2L OUTDOORSMAN | 60.0 lumens | 3.0 lumens / 100 hours | 6.0 hours         | 5.40 inches | 1.00 inches    | 3.7 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**6P® LED DEFENDER®**

| Code                   | Max Output   | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|------------------------|--------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR 6P LED DEFENDER | 120.0 lumens | 2.0 hours         | 5.50 inches | 1.25 inches    | 5.3 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

**KROMA® MILSPEC**

| Code                 | Max Output / Runtime                                                                                                                                                       | Low Setting Output / Runtime                                                                                                                                               | Tactical Runtime* | Length      | Bezel Diameter | Weight w/ Batteries | Batteries |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|----------------|---------------------|-----------|
| MM SUR KROMA MILSPEC | Primary White:<br>50.0 lumens / 1.5 hours<br>Secondary Red:<br>6.3 lumens / 8 hours<br>Secondary Blue:<br>3.4 lumens / 8 hours<br>Secondary Infrared:<br>15.0 mW / 8 hours | Primary White:<br>3.4 lumens / 20 hours<br>Secondary Red:<br>0.5 lumens / 80 hours<br>Secondary Blue:<br>0.5 lumens / 80 hours<br>Secondary Infrared:<br>8.0 mW / 20 hours | 1.5 hours         | 5.70 inches | 1.47           | 5.1 ounces          | 2 123A    |

\*Total runtime (at highest setting for multiple-output flashlights) until output drops below 50 lumens

## YACHT SIGN LOGOS



### FACE MATERIALS

- Polished Stainless Steel: The finest standard, and our premium product. YACHTSIGN™ specifies 316L stainless steel manufactured by Thyssen. All steel is finished to a mirror polish with beveled and hand-polished edges to a standard customary on world-class vessels throughout the world.
- 3-D Painted Fronts: Individualize by adding depth, color and elegance. Create a unique look by varying height, profile, color and finish.
- Glossy Acrylic: The contemporary and dynamic look. This indestructible material comes in a variety of thicknesses and colors.
- Vinyl and Gold Films: The evergreen of marine lettering. A proven product with endless applications.
- Custom: Limited only by imagination – please inquire.



22k Sign Gold



Silver leaf over 3/4" painted body over 1/8" black acrylic



3-D painted medium silver



3-D painted cordovan gold



3-D painted navy blue



Half round medium silver over 1/8" black acrylic



Half round gold over 1/8" black acrylic



Square vivid red over 1/8" black acrylic



Multi tiered bevel over 1/8" black acrylic



1/8" black acrylic



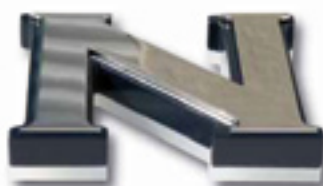
Silver leaf over 3/4" black square body



Multi tiered bevel painted aqua mist



Polished stainless steel over 1" painted body



The elegant three layered set-up provides depth to the design and ensures great daytime visibility.



### LIGHTING OPTIONS

Three basic lighting options are available and each can be set up as backlit letters or as front lighted letters. All systems emit a spot free and harmonious light.

1. Single Color – monochrome string of LEDs in one of the following colors:

- Azure Blue · Cool White · Pure White · Old Lace White · Cream White
- True Red · Amber · Lime Green · Purple

2. Dual Color – a combination of two colored LED strings (chosen from above).

3. Multi Color (RGB) – full customizable color selection system - providing a highly variable palette of colors across a wide spectrum of harmonious light.

**THE YACHTSIGN™ GUARANTEE**

YACHTSIGN™ letters and scripts including all YACHTSIGN™ provided electric connections are 100% waterproof. The systems are set up to be 100% maintenance free. The applied advanced level of engineering results in a 100% reliable product. A meticulous quality control ensures that only tested and approved products are distributed.

To prove the high level of engineering YACHTSIGN™ warrants the backlit letters for **5 YEARS**.

