



- High intensity LEDs
- Programmable intensity, flash rate, synchronization and daylight switch



Tron ML-series



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# ▶ Tron ML-series

For marking of fishing equipment such as nets and long line equipment, buoys, seismic cables, anchor chains and moorings, fish farms, oil cables and offshore installations.

The Tron ML-series has high intensity LEDs with several enhanced features implemented. They can be activated through programming of:

- Light-intensity
- Flash-rate
- Synchronization (and master/slave)
- Daylight switch (with adjustable ambient light level for ON/OFF)

- **Tron ML-100** is powered by 3 Alkaline D-sized battery cells, total of 4.5 VDC

- **Tron ML-200** is powered by a special high capacity battery pack at 4.5 VDC

- **Tron ML-300** uses external 10-27 VDC

The Tron ML-series has a module-based construction, making them user-friendly during any service and repair.

The Tron ML-series replaces the previous MF-marking light series from Jotron.

**Tron ML-100** is mechanical identical with previous marking lights MF-1111 LED, MF-1112 and MF-1111B powered by 3 Alkaline D-sized battery cells.

**Tron ML-200**, based on the Tron ML-series EI-unit in combination with the aluminum tube from previous MF-1114 series, is the new long-life operation 4.5 VDC marking light.

**Tron ML-300** will replace the previous MF-1117, 1118 and 1119 - and has the same mechanical "foot-print".

**Tron ML-EI unit**, 4.5 VDC and 10-27 VDC

The Tron ML-series EI-unit is used in all the Tron ML-series of marking lights with different programming.



Tron ML-100



Tron ML-300



Tron ML-200



Tron ML-EI unit



## Tron ML-Master

Synchronization master for use with the Tron ML-series.

Synchronization master current drain @ 4.5 VDC = 20 mA.

Expected operation with ML-100 battery 3 x 1.5 VDC D-sized battery cells = 32 days.

Expected operation with ML-200 battery-pack (X-91585) = 225 days.



SPESIFICATIONS/TYPES:	Tron ML-100	Tron ML-200	Tron ML-300
Material housing	ABS	Aluminium	ABS
Material lens	Lexan	Lexan	Lexan
Light system	LED (white, yellow or red)	LED (white, yellow or red)	LED (white, yellow or red)
Light intensity (Red LED 5-Cd only)	5- or 15-Cd (Candela)	5- or 15-Cd	5- or 15-Cd
Surface range	2 or 3 NM (nautical miles)	2 or 3 NM	2 or 3 NM
Waterproof	Down to 500 meters	Down to 100 meters	IP-68 5m/1hour
Operation time @ 0-degrees C*			
Current drain approx.			
Activation switch	Magnet/reed and daylight-sensor	On/Off by daylight-sensor only	On/Off by daylight-sensor only
Flash-rate	25-flash/min	25 flash/min or 0c Y 2s	25 flash/min or 0c Y 2s or fixed
Software programming	Flash rate, intensity, sync, daylight switch	Flash rate, intensity, sync, daylight switch	Flash rate, intensity, sync, daylight switch
Power/battery-type	4.5 VDC, 3 x Alkaline D-size battery cells	4.5 VDC special battery-pack	10-27 VDC external power
Lens colour	White	White	White
LED colour standard	White or yellow	White or yellow	White or yellow
LED colour option	Red	Red	Red
Dimensions approx.	Length: 335 mm / Ø: 100 mm	Length: 1615 mm / Ø: 70/50 mm	Length: 155 mm / Ø: 100 mm
Fixing option	Floater Jotron part.no X-98885	Various floaters	Rigid-mounting





Jotron ML-type and LED Colour	Candela MA= Modified Allard	Power DC-Voltage	Flash ON time	Flash OFF time	Flashes / min	Current drain @ 20 °C [mA]	Peak current @ 20 °C [mA]	Operation [hours]
Tron ML-100 / ML-200 White	6 Cd	4,5V (13500 mAh / 13500 mAh x 7)	0,5 s	1,9 s	25	17	67	800 / 5500
Tron ML-300 White	6 Cd	12V (120 Ah)**	0,5 s	1,9 s	25	11	35	10600
Tron ML-300 White	18 Cd	12V (120 Ah)**	0,5 s	1,9 s	25	23	90	5200
Tron ML-300 White	6 Cd	24V (120 Ah)**	0,5 s	1,9 s	25	8	19	15000
Tron ML-100 / ML-200 Yellow	6 Cd (MA =5 Cd)	4,5V (13500 mAh / 13500 mAh x 7)	0,5 s	1,9 s	25	28	121	470 / 3300
Tron ML-200 Yellow	6 Cd (MA =5 Cd)	4,5V (13500 mAh x 7)	1,25 s	0,75 s	0c Y 2s	76	121	1200
Tron ML-200 Yellow	18 Cd (MA =15 Cd)	4,5V (13500 mAh x 7)	1,25 s	0,75 s	0c Y 2s	202	320	460
Tron ML-300 Yellow	6 Cd (MA =5 Cd)	12V (120 Ah)**	0,5 s	1,9 s	25	17	63	7000
Tron ML-300 Yellow	18 Cd (MA =15 Cd)	12V (120 Ah)**	1,25 s	0,75 s	0c Y 2s	93	145	1300
Tron ML-300 Yellow	18 Cd (MA =15 Cd)	24V (120 Ah)**	1,25 s	0,75 s	0c Y 2s	51	78	2300
Tron ML-100 Red	6 Cd	4,5V (13500 mAh)	Fixed					220
Tron ML-100 Red	6 Cd	24V (120 Ah)**	Fixed					

\*\* External battery



Agent/Distributor:

Jotron AS reserves the right to change the design and/or specifications at any time without prior notice. Reservations are also taken towards any general errors that may occur.

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