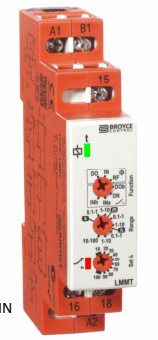
Type: LMMT

Multifunction, Multi-voltage Timer

Terminal Protection to IP20



Dims: to DIN 43880
W. 17.5mm

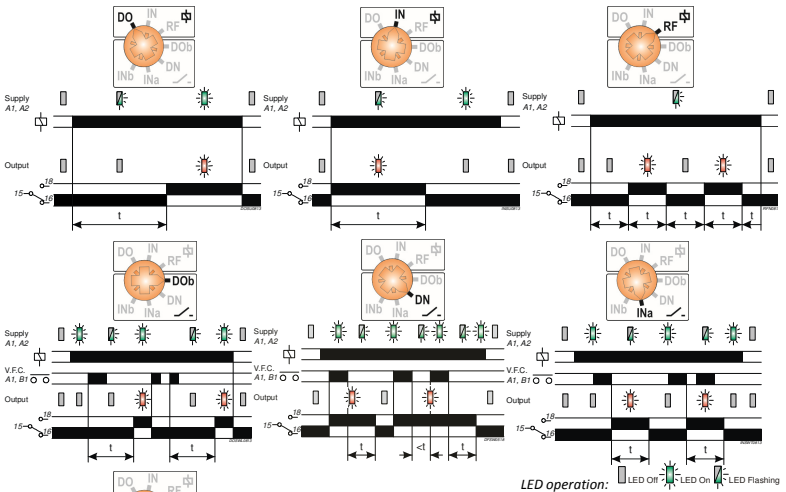
- ***NEW*** **17.5mm DIN rail housing**
- **7 Selectable functions (3 Supply Initiated, 4 Switch Initiated)**
- **3 Switch initiated functions are re-triggerable (DOb, DN and INb)**
- **7 Selectable time ranges (0.1 seconds – 100 hours)**
- **Fine adjustment of selected time range**
- **LED warning indication if function is changed whilst powered**
- **Switch initiated functions ideal for use in Watchdog circuits**
- **Multi-voltage input (24 – 230V AC/12 – 230V DC)**
- **1 x SPDT relay output 8A**
- **Green LED indication for supply / timing status**
- **Red LED indication for relay status**
- **Conforms to IEC 61812**

Wiring Information *and* ***Product Demonstration Videos*** *can also be found on our YouTube channel*

https://www.youtube.com/user/BroyceControlLtd

ISO 9001:2015
Cert. No. 14125771

FUNCTION DIAGRAMS



"Function" Symbol explanation:

Symbol	Function[1]	Triggered from:
DO	Delay On Operate	Supply (A1/A2)
IN	Interval	Supply (A1/A2)
RF	Symmetrical Recycling (Off/On)	Supply (A1/A2)
DOb	Delay On	Switch (A1/B1)
DN	Delay Off	Switch (A1/B1)
INa	Interval*	Switch (A1/B1)
INb	Interval	Switch (A1/B1)

* This function is non-retriggerable

INSTALLATION AND SETTING

Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as required.

Setting the unit.

- Set the "Function" selector ❺ to the required position[1].
- Set the "Range" ❹ to the required position (depending on whether seconds, minutes or hours are required), then set the "Set %" adjustment ❸ as required. The "Set %" is a % of the selected range, so 60% of the 1 – 10 hour range will give 6 hours.

Applying power.

- Apply power and the green LED ❶ will illuminate or start flashing depending on Function selected. If a Switch initiated function is selected, the LED will begin flashing upon closing of the external input.
- The red relay LED ❷ will illuminate to indicate the relay is in the energised state.

Note:

[1] If the "Function" selector is changed whilst the power is applied, the relay will remain in its current state and the green LED will flash at a faster rate. Power must be removed and re-applied for the new Function to operate.

[2] In accordance with IEC 61812, the green LED is permitted to extinguish during a voltage dip or momentary interruption of the power supply providing the state of the output relay does not change. The dip / interruption duration and levels are defined in the product standard.

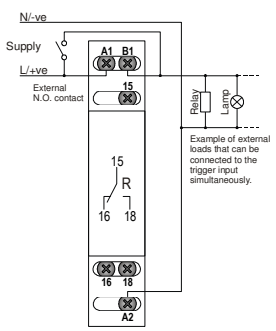
TECHNICAL SPECIFICATION

Supply voltage U **(A1, A2)**:	24 – 230V AC/12 – 230V DC			
Frequency range:	48 - 63Hz (AC supplies)			
Supply variation:	AC: +15/-20%, DC: +/-15%			
Overvoltage category:	III (IEC 60664)			
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664			
Power consumption (max.):	12V	24V	110V	230V
AC:	0.3VA	0.4VA	1.3VA	3.4VA
DC:	0.26W	0.24W	0.47W	0.95W
Timing functions (7):				
Supply initiated:	Delay On (DO), Interval (IN), Symmetrical Recycling Off/On (RF)			
Switch initiated:	Delay On (DOb), Delay Off (DN), Interval (Trailing) (INa), Interval (Leading) (INb)			
Timing ranges (7):	Seconds:	Minutes:	Hours:	
	0.1 – 1	0.1 – 1	0.1 – 1	
	1 – 10	1 – 10	1 – 10	
			10 - 100	
Reset time:	100ms			
Accuracy:	± 1% of maximum full scale			
Adjustment accuracy:	< 5% of maximum full scale			
Repeat accuracy:	± 0.5% at constant conditions (IEC 61812)			
Drift with temperature:	± 0.05% / °C			
Drift with voltage:	± 0.2% / V			
External trigger input **(A1 > B1)**:	Volt Free Contact, Open Collector			
External loading:	Yes, between B1 and A2 (i.e. LED, Relay, Lamp)			
Trigger threshold:	>75% of voltage present between A1 and A2 (auto-set)			
Minimum trigger time:	AC: 60ms DC: 40ms (B1 terminal unloaded)			
Maximum input frequency:	10 Hz (with 50:50 duty cycle)			
Maximum cable length:	10m (between Timer and external switching device)			
Power on indication / Timing[2]:	Green LED			
Relay status	Red LED			
Ambient temp:	-20 to +60°C			
Relative humidity:	+95%			
Output **(15, 16, 18)**:	SPDT relay			
Output rating:	AC1		250V 8A (2000VA)	
	AC15		250V 5A (no), 3A (nc)	
	DC1		25V 8A (200W)	
Electrical life:	≥ 150,000 ops at rated load			
Dielectric voltage:	2kV AC (rms) IEC 60947-1			
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664			
Housing:	Orange flame retardant UL94			
Weight:	≈ 60g			
Mounting option:	On to 35mm symmetric DIN rail to BS EN 60715 or direct surface mounting via 2 x M3.5 or 4BA screws using the black clips provided on the rear of the unit.			
Terminal conductor size	≤ 2 x 2.5mm² solid or stranded			
Approvals:	Conforms to IEC 61812.			

c UL us LISTED IND. CONT. EQ. E111187

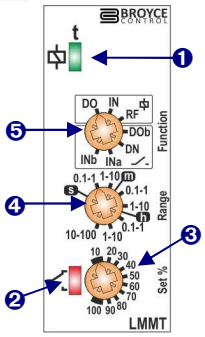
CE, C-tick and RoHS Compliant.
EMC: Immunity: EN 61000-6-2 (EN 61000-4-3 10V/m 80MHz - 2.7GHz). Emissions: EN 61000-6-4

CONNECTION DIAGRAM

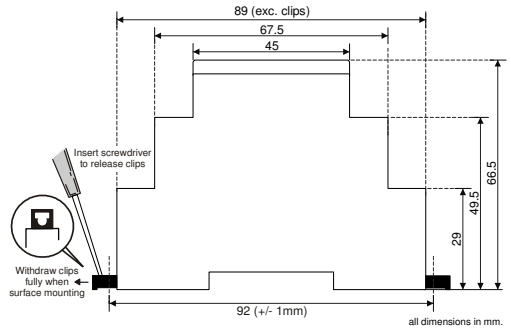


SETTING DETAILS

1. Power supply status / Timing (Green) LED
2. Relay output status (Red) LED
3. "Set %" adjustment
4. Time delay "Range" selector
5. Timing "Function" selector



DIMENSIONS



Broyce Control Ltd., Pool Street, Wolverhampton, West Midlands WV2 4HN. England
Tel: +44 (0) 1902 773746 Fax: +44 (0) 1902 420639 Email: sales@broycecontrol.com Web: www.broycecontrol.com