

**Asymmetrical
recycle, independent
timing.
Multiscale.
AC/DC supply**



moduLo

TM PL

Time of scale range	Control power	Catalog number	Price
	[V]		\$ each
0.1-1s 1-10s 6s-1min 1-10min 6min-1h 1h-10h 0.1-1 day 1-10 days 3-30 days 10-100 days	12-240V AC/DC	TM PL	150.00

General characteristics

- Programmable asymmetrical recycle, multiscale, multivoltage. Flasher with independent timing for ON and OFF intervals
- Enabling input of ON or OFF interval
- One relay output with 1 SPDT contact
- Delay time for OFF (pause) interval, adjustable on front by rotary switch: 10-100%
- Delay time for ON (work) interval, adjustable on front by rotary switch: 10-100%
- Green LED indicator for power on
- Red LED indicator for relay state; flashing for delay
- Modular 17.5mm (0.7in) wide; suitable for screw fixing or 35mm DIN rail (IEC/EN 60715) mounting
- Degree of protection: IP40 on front (only when mounted in housing or electric board with IP40); IP20 on terminals.

Certifications and compliance

UL listed for USA and Canada, file E93601.
Compliant with standards: IEC/EN 61812-1.

Operational diagram

See page W-9.

**Off delay.
Multiscale.
AC/DC supply**



moduLo

TM D

Time of scale range	Control power	Catalog number	Price
	[V]		\$ each
0.06-0.6s 0.6-6s 6s-1min 12s-2min	24-240V AC/DC	TM D	147.00

General characteristics

- Multiscale, multivoltage. True off delay; delay on break with start at relay de-energizing
- One relay output with 1 SPDT contact
- Delay time adjustable on front by rotary switch: 10-100%
- Green LED indicator for power on
- Modular 17.5mm (0.7in) wide; suitable for screw fixing or 35mm DIN rail (IEC/EN 60715) mounting
- Degree of protection: IP40 on front (only when mounted in housing or electric board with IP40); IP20 on terminals.

Certifications and compliance

UL listed for USA and Canada, file E93601.
Compliant with standards: IEC/EN 61812-1.

Operational diagram

See page W-9.

**Timer for
starters.
Multiscale.
AC/DC supply**



moduLo

TM ST

Time of scale range	Control power	Catalog number	Price
	[V]		\$ each
0.1-1s 1-10s 6s-1min 1-10min	24-48VDC 24-240VAC 380-440VAC	TM ST TM ST A440	106.00 106.00

General characteristics

- Multiscale, multivoltage for starting (wye-delta, impedance, autotransformer, etc.) of induction motors, 2 separate timings
- One relay output with 2 normally open (N/O) contacts with common pole
- Delay time adjustable on front by rotary switch: 10-100% for wye connection
- Starting and transition time (20-300ms time scale), adjustable on front by rotary switch
- Green LED indicator for power on
- Red LED indicator for relay state; flashing during delay and steady at delay lapsing
- Modular 17.5mm (0.7in) wide; suitable for screw fixing or 35mm DIN rail (IEC/EN 60715) mounting
- Degree of protection: IP40 on front (only when mounted in housing or electric board with IP40); IP20 on terminals.

Certifications and compliance

UL listed for USA and Canada, file E93601.
Compliant with standards: IEC/EN 61812-1.

Operational diagram

See page W-10.

TYPE	TM P	TM M1	TM M2	TM PL	TM D	TM ST	TM LS
DESCRIPTION							
	On delay	Programmable multifunction	Programmable multifunction timing	Asymmetrical recycle	True off delay	For starting	Staircase illumination
	Multiscale	Multiscale	Multiscale	Multiscale	Multiscale	Multiscale	Single scale
	Multivoltage	Multivoltage	Multivoltage	Multivoltage	Multivoltage	Multivoltage	Single voltage
CONTROL CIRCUIT							
Rated control power Us	24-48VDC	12-240VAC/DC			24-240VAC/DC	24-48VDC	220-240VAC
	24-240VAC					24-240VAC	
						380-440VAC	
Rated frequency	50/60Hz						
Operating voltage range	0.85-1.1 Us						
Power consumption/dissipation (maximum)	1.2VA/0.8W (24-48VDC) 16VA/0.9W (110-240VAC)	0.6VA/0.3W (12-48VDC) 1.6VA/1.2W (110-240VAC)	1.1VA/0.8W (12-48VDC) 1.8VA/1.2W (110-240VAC)	0.15VA/0.15W (12-48VDC) 0.9VA/0.8W (110-240VAC)	0.1VA/0.1W (24-48V) 1.1VA/0.8W (110-240VAC)	1.2VA/0.8W (24-48VDC) 16VA/0.9W (110-240VAC)	12VA/0.8W (energized) 5VA/0.5W (de-energized)
TIMING CIRCUIT							
Time setting range	Multiscale 0.1-1s 1-10s 6s-1min 1-10min 6min-1h 1-10h 0.1-1day 1-10days ON only OFF only	Multiscale 0.1-1s 1-10s 6s-1min 1-10min 6min-1h 1-10h 0.1-1day 1-10days ON only OFF only	Multiscale 0.1-1s 1-10s 6s-1min 1-10min 6min-1h 1h-10h 0.1-1day 1-10days ON only OFF only	Multiscale 0.1-1s 1-10s 6s-1min 1-10min 6min-1h 1h-10h 0.1-1day 1-10days 3-30days 10-100days	Multiscale 0.06-0.6s 0.6-6s 6s-1min 12s-2min	Multiscale 0.1-1s 1-10s 6s-1min 1-10min	Multiscale 0.5-20min
Setting accuracy	<±9%						
Repeat accuracy	< ±0.2%						<±0.2%
Influence of voltage variation	<±0.01%						<±0.5%
Average variation of set delays related to +70°F/+20°C at -4°F/-20°C	<±2%						<±0.25%
Minimum power time	—				≥20ms	—	—
Minimum ON time	—	25ms (no maximum limit)			—	—	50ms (no max lim.)
Resetting time	during timing	≥ 100ms			—	≥100ms	≥ 100ms
	elapsed time	≥ 50ms			—	≥50ms	—
Immunity time for microbreakings	≤ 50ms	≤25ms	≤15ms	≤25ms	—	≤40ms	≤ 20ms
OUTPUT CONTACTS							
Contact arrangement	1 delayed double-throw	1 delayed double-throw	1 inst./delayed N/O + 1 delayed DT	1 delayed double-throw	1 delayed double-throw	2 delayed N/O	1 delayed N/O
Maximum switching voltage	250VAC						
Conventional free air thermal current Ith	8A				5A	8A	16A
UL (IEC/EN 60947-5-1) designation	B300 (AC1 8A 250VAC)						—
Electrical life (with rated load)	10 ⁵ cycles						
Mechanical life	30x10 ⁶ cycles						
Tightening torque (maximum)	7lbin / 0.8Nm						
Conductor section (min-max)	24-12AWG / 0.2-4mm ²						
INSULATION (input-output)							
Rated insulation voltage	250V						
Rated impulse withstand voltage	4kV						
Power frequency withstand voltage	2kV (50Hz - 60s)						
AMBIENT CONDITIONS							
Operating temperature	-5...+140°F (-20...+60°C)						
Storage temperature	-20...+175°F (-30...+80°C)						
Housing	Self-extinguishing polyamide						
Note: N/O = normally open inst. = instantaneous DT = double-throw							