



## 22.5 mm DIN rail mounting TUR1 Part number 88865105



- Multi-function or mono-function
- Multi-range
- Multi-voltage
- Screw or spring terminals
- LED status indicator
- Option of connecting an external power supply to the control input
- 3-wire sensor control option

	Type	Functions	Timing	Output	Nominal rating	Connections	Supply voltage
88865105	TUR1	A - At - B - C - H - Ht - Di - D - Ac - Bw	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865115	TAR1	A - At	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865125	TBR1	B	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865135	TCR1	C	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865145	THR1	H - Ht	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865155	TLR1	Li - L	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865175	TQR1	Q	0,1s→100h	1 changeover relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865100	TUR4	A - At - B - C - H - Ht - Di - D - Ac - Bw	0,1s→100h	1 changeover relay	8 A	Screw terminals	12 V AC / DC
88865103	TUR3	A - At - B - C - H - Ht - Di - D - Ac - Bw	0,1s→100h	1 changeover relay	8 A	Screw terminals	12 →240 V AC / DC
88865503	TURc3	A - At - B - C - H - Ht - Di - D - Ac - Bw	0,1s→100h	1 changeover relay	8 A	Spring terminals	12 →240 V AC / DC
88865185	TXR1	Ad - Ah - N - O - P - Pt - TL - Tt - W	0,1s→100h	1 change over relay	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865305	TU2R1	A - At - B - C - H - Ht - Di - D - Ac - Bw	-	2 timed changeover relays	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865215	TA2R1	A - At	0,1s→100h	2 changeover relays	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865265	TK2R1	K	0,6s→160 s	2 change over relays	8 A	Screw terminals	24 V DC / 24 →240 V AC
88865300	TU2R4	A - At - B - C - H - Ht - Di - D - Ac - Bw	0,1s→100h	2 timed relays changeover relays	8 A	Screw terminals	12 V AC / DC
88865176	TQR6	Q: Star / Delta	0,1s→100h	1 change over relays	8 A	Screw terminals	230 V→440 V AC
88865303	TU2R3	A, B, C, H, Di, Ac, BW + (At, Ht, D)	0,1s→100h	2 timed changeover relays	8 A	Screw terminals	12 →230 V AC/DC
88865385	TX2R1	Ad - Ah - N - O - P - Pt - TL - Tt - W	0,1s→100h	2 timed changeover relays	8 A	Screw terminals	24 V DC / 24 →240 V AC

### Timing

Timing ranges (7 ranges)	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h TK2R1: 0.6s - 2.5s - 20s - 160 s
Repetition accuracy with constant parameters	± 0.5% (IEC/EN 1812-1)
Drift Temperature	± 0,05% / °C
Drift Voltage	± 0.2% / V
Display accuracy according to IEC/EN 1812-1	± 10% / 25°C
Minimum pulse duration typically (relay version)	30 ms
Minimum pulse duration typically (solid state version)	50 ms
Minimum pulse duration typically (relay version under load)	100 ms
Maximum reset time by de-energisation typically (relay version)	100 ms
Maximum reset time by de-energisation typically (solid state version)	350 ms
Immunity from micro power cuts: typical	> 10 ms

### Supply

Multi-voltage power supply	Depending on version
Frequency (Hz)	50 / 60
Operating range	85 to 110% Un (85 to 120% Un for 12V AC/DC)
Operator factor	100%
Max. absorbed power	0,6 W 24 V AC/DC 1,5 W 230 V AC 32 VA 230 V AC

### Output specification

1 or 2 changeover relays, AgNi (cadmium-free)	2000 VA/80 W
Rated power	2000 VA/80 W
Maximum breaking current	8 A AC 8A DC
Minimum breaking current	10 mA / 5 V DC
Voltage breaking capacity	250 V AC/ DC
Electrical life (operations)	10 <sup>5</sup> operations 8 A 250 V resistive
Mechanical life (operations)	5x10 <sup>6</sup>
Breakdown voltage acc. to IEC/EN 61812-1	2.5 kV / 1 min / 1 mA / 50 Hz
Impulse voltage acc. to IEC/EN 60664-1, IEC/EN 61812-1	5 kV, wave 1.2 / 50 µs

### Solid state output

Rated power	0,7 A AC/DC 20 °C (0,5 A UL)
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Derating	5 mA / °C
Maximum admissible current	20 A ≤ 10 ms
Minimum breaking current	10 mA
Leakage current	< 5 mA
Voltage breaking capacity	250 V AC/ DC
Maximum voltage drop at terminals	3 wire 4V - 2 wire 8V
Electrical life (operations)	10 <sup>8</sup>
Mechanical life (operations)	10 <sup>8</sup>
Breakdown voltage acc. to IEC/EN 60664-1, IEC 60255-5	2.5 kV to 1 mA / 1 min
Input type	Volt-free contact
	3-wire PNP output control option residual voltage: 0.4V whatever the timer power supply

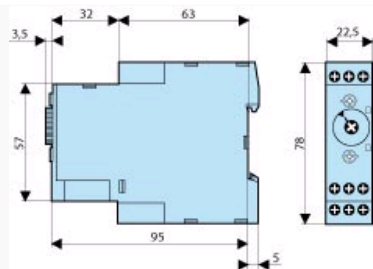
### General characteristics

Conformity to standards	IEC/EN 61812-1 IEC/EN 61000-6-1 IEC/EN 61000-6-2 IEC/EN 61000-6-3 IEC/EN 61000-6-4
Certifications	CE, UL, cUL, CSA, GL
Temperature limits use (°C)	-20 → +60
Temperature limits stored (°C)	-30 → +60
Installation category (acc. to IEC/EN 60664-1)	Voltage surge category
Creepage distance and clearance acc. to IEC/EN 60664-1	4 kV / 3
Protection (IEC/EN 60529)	IP 20 IP 40
Degree of protection acc. to IEC/EN 60529 Front face (except Tk2R1)	IP 50
Vibration resistance acc. to IEC/EN 60068-2-6	f = 10 ■ 55 Hz A = 0,35 mm
Relative humidity no condensation acc. to IEC/EN 60068-2-30	93% sans condensation
Electromagnetic compatibility - Immunity to electrostatic discharges acc to IEC/EN 61000-4-2	Level III (Air 8 KV / Contact 6 KV)
Immunity to electrostatic fields acc. ENV 50140/204 CEI/EN 61000-4-3	Level III 10V/m (80 MHz to 1 GHz)
Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4	Level III (direct 2kV / Capacitive coupling clamp 1 KV)
Immunity to shock waves on power supply acc. to IEC/EN 61000-4-5	Level III (2 KV / common mode 2 KV/residual current mode 1KV)
Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6	Level III (10V rms: 0.15 MHz to 80 MHz)
Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-11	30%/10 ms 60%/100 ms > 95%/5 s
Mains-borne and radiated emissions acc. to EN 55022 (CISPR22), EN55011 (CISPR11)	Class B
Fixing: Symmetrical DIN rail	35 mm
Connection capacity - without ferrule	2 x 2,5 mm <sup>2</sup>
Connection capacity - with ferrule	2 x 1,5 mm <sup>2</sup>
Spring terminals, 2 terminals per connection point - flexible wire	1,5 mm <sup>2</sup>
Spring terminals, 2 terminals per connection point - rigid wire	2,5 mm <sup>2</sup>
Housing material	Self-extinguishing
Weight: casing 17,5 mm	60 g
Weight: casing 22,5 mm	90 g
Weight: plug-in casing	80 g

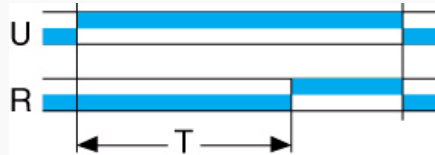
### Display

State displayed by 2 LEDs  
- Flashing green when on  
- Relay LED yellow during timing  
Green LED operation indicator  
Pulsing :  
- Timer on, no timing in process  
Permanently lit :  
- Relay waiting, no timing in process

### Dimension Diagram :



Curves : Function A - 1 relay output



Function A

Delay on energisation

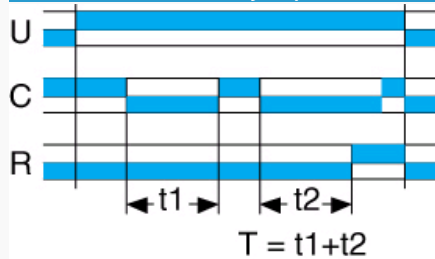
Curves : Function Ac - 1 relay output



Function Ac

Timing after closing and opening of control contact

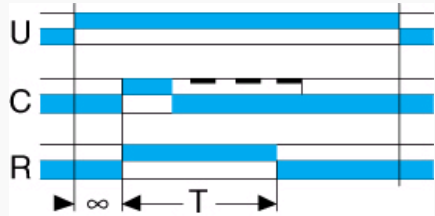
Curves : Function At - 1 relay output



Function At

Timing on energisation with memory

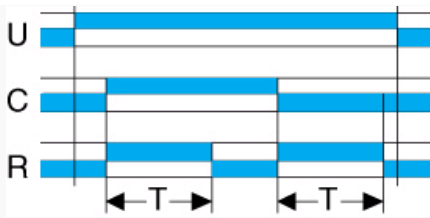
Curves : Fonction B - 1 relay output



Function B

Timing on impulse one shot

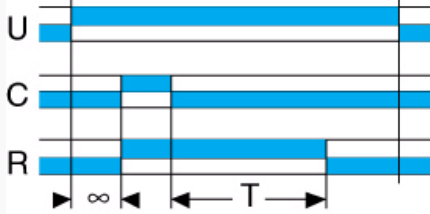
Curves : Function Bw - 1 relay output



**Function Bw**

Pulse output (adjustable)

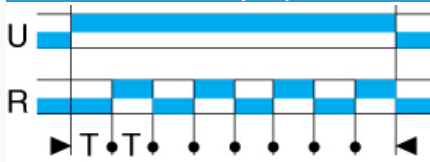
**Curves : Function C - 1 relay output**



**Function C**

Timing after impulse

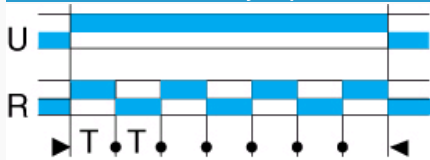
**Curves : Function D - 1 relay output**



**Function D**

Flip-flop  
Pause start

**Curves : Function Di - 1 relay output**



**Function Di**

Flip-flop  
Pulse start

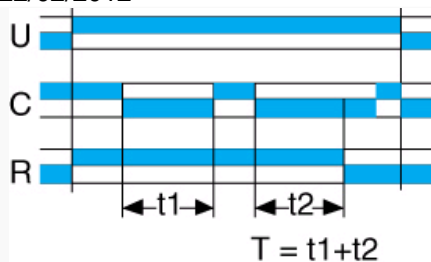
**Curves : Function H - 1 relay output**



**Function H**

Timing on energisation

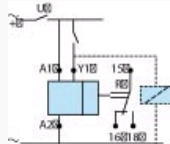
**Curves : Function Ht - 1 relay output**



#### Function Ht

Delay on energisation with memory

#### : 1 changeover relay output



#### Functions

A - At - B - C - H - Ht - Di - D - Ac - Bw

Ad - Ah - N - O - P - Pt - TL - Tt - W