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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



# Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China









### DIN Rail Mount 22.5 mm TURc3 Part number 88865503



Product with 1 relays (88 865 100/103/105/115/125/135/145/155/185/503) : Replaced by the 17,5 mm range

For instance : previous part number 88 865 XXX / new part number 88 827 XXX

Product with 2 relays (88 865 175/176/215/300/303/305/385) : Just one digit differentiates the new range part number from the old range's For instance : previous part number : 88 865 XXX / new part number : 88 866 XXX

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Type	Functions	Timing	Output	Nominal rating	Connections	Supply voltage
88 865 503 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

• • • • • • • • • • • • • • • • • • • •	
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 61812-1	± 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)
Operating 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)
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/EN 60255-5	2.5 kV to 1 mA / 1 min

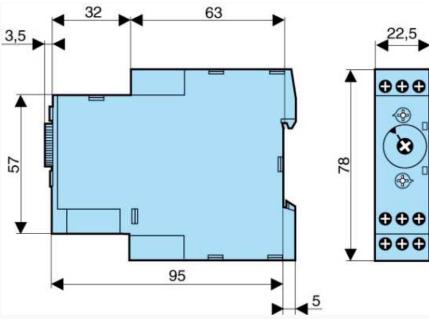
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Volt-fee contact   Swine PNP output control option residual voltage : 0.4V whatever the timer power supply	02/11/2015	www.crouzet.com
ECEN 61812:1   ECEN 61000-6-1   ECEN 61000-6-1   ECEN 61000-6-1   ECEN 61000-6-1   ECEN 61000-6-3   ECEN 6	Input type	
ECEN 1000-6-2   ECEN 1000-6-2   ECEN 1000-6-2   ECEN 1000-6-2   ECEN 1000-6-3   ECEN 1000-6-4	General characteristics	
Temperature limits user (CO)	Conformity to standards	IEC/EN 61000-6-1 IEC/EN 61000-6-2 IEC/EN 61000-6-3
Tempurature limits stored (**C)   30 -+60	Certifications	CE, UL, cUL, CSA, GL
Installation category  (acc. to IEC/EN 6086-1)  Crespage distance and clearance acc. to IEC/EN 60664-1  Protection (IEC/EN 60829)  P20  Degree of protection acc. to IEC/EN 60829 Front face (pcopt TAZRT)  Vibration resistance acc. to IEC/EN 60082-2  A = 0.35 mm  Relative humidly no condensation acc. to IEC/EN 60068-2  Immunity to condensation acc. to IEC/EN 60088-2  Immunity to radiated, radio-frequency, electromagnetic compatibility - Immunity to electrostatic discharges acc to IEC/EN 61000-4-2  Immunity to arbidated, radio-frequency, electromagnetic field acc. IEC/EN 61000-4-3  Immunity to shock waves on power supply acc. to IEC/EN 61000-4-4  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4  4-1  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4  4-1  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4  Fixing -Symmetrical OIN rail  Connection capacity - with ferrule  2 x 1,5 mm²  Spring erminals, 2 terminals per connection point - rigid price plants acc. to IEC/EN 61000-1-1 (acc) according to the residual connection according to the residual connecti	Temperature limits use (°C)	-20 →+60
Social ECEN 5056+1)   Voltage surge category	Temperature limits stored (°C)	-30 →+60
P 20   P 40		Voltage surge category
P-40	Creepage distance and clearance acc. to IEC/EN 60664-1	4 kV / 3
Degree of protection acc. to IEC/EN 60529 Front face (except TN2R1)  IP 50  IP 50  f = 10 * 55 Hz A = 0.35 mm  Relative humbly no condensation acc. to IEC/EN 60069-2-30  Electromagnetic compatibility - Immunity to electrostatic discharges ace to IEC/EN 61000-4-2  Immunity to radiated, radio-frequency, electromagnetic field acc. IEC/EN 61000-4-2  Immunity to rapid transient bursts acc. to IEC/EN 61000-4-2  Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4  Immunity to shock waves on power supply acc. to IEC/EN 61000-4-4  Immunity to valid frequency in common mode acc. to IEC/EN 61000-4-4  Immunity to valid requency in common mode acc. to IEC/EN 61000-4-4  Immunity to valid requency in common mode acc. to IEC/EN 61000-4-4  Immunity to valid requency in common mode acc. to IEC/EN 61000-4-5  Mains-borne and radiated emissions acc. to IEC/EN 61000-4-6  Mains-borne and radiated emissions acc. to IEC/EN 61000-4-6  Mains-borne and radiated emissions acc. to IEC/EN 61000-4-6  Mains-borne and radiated emissions acc. to IEC/EN 61000-6  Syring terminals, 2 terminals per connection point - figid vire  Connection capacity - with ferrule  2 x 2,5 mm²  2 x 1,5 mm²  Spring terminals, 2 terminals per connection point - figid vire  Housing material  Weight : casing 17.5 mm  Place is the first of the first	Protection (IEC/EN 60529)	
Power   Power		IP 40
Sec to IEC/EN 60068-2-6   A = 0,35 mm		IP 50
Relative humidity no condensation acc. to IEC/EN 60068-2-30   33 % sans condensation   33 % sans condensation   2-30 Check 16100-4-2   2-30 Check 161000-4-2   2-30 Check 161000-4-2   2-30 Check 161000-4-3   2-30 Check 161000-4-3   2-30 Check 161000-4-3   2-30 Check 161000-4-3   2-30 Check 161000-4-4   2-30 Check 161000-4-5   2-30 Check 161000-4-6   2-30 Check 16		
Electromagnetic compatibility - Immunity to electrostatic discharges acc to IEC/EN 61000-4-2 Immunity to radiated, radio-frequency, electromagnetic field acc. IEC/EN 61000-4-3 Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4 Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4 Immunity to shock waves on power supply acc. to IEC/EN 61000-4-5 Immunity to shock waves on power supply acc. to IEC/EN 61000-4-5 Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6 Immunity to voltage dips and breaks acc. to IEC/EN 61000-95 %/5 s  Mains-borne and radiated emissions acc. to EN 55022 (ISPR2); ENS5011 (CISPR11) Fixing : Symmetrical DIN rail Connection capacity - with out-ferrule Connection capacity - with lerrule Spring terminals, 2 terminals per connection point - rigid wire Spring terminals, 2 terminals per connection point - rigid wire Weight : casing 17.5 mm 9 o g  Weight : casing 17.5 mm 9 o g  Weight : casing 22.5 mm  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (VIV ms : 0 16 Hz)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (Air 8 KV / Contact 6 KV)  Level III (2 KV / Contact 6 KV)  Level		A = 0,35 mm
discharges acc to IEC/EN 61000-4-2 Immunity to radiated, radio-frequency, electromagnetic field acc. IEC/EN 61000-4-3 Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4 Immunity to shock waves on power supply acc. to IEC/EN 61000-4-5 Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-5 Immunity to valid frequency in common mode acc. to IEC/EN 61000-4-6 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-1 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-1 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-1 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-1 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-1 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-5 Immunity to voltage	2-30	93 % sans condensation
Immunity to rapid transient bursts acc. to IEC/EN 61000-4-  Immunity to shock waves on power supply acc. to IEC/EN 61000-4- 61000-4-5  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4- Immunity to voltage dips and breaks acc. to IEC/EN 61000-4- 1- Immunity to voltage dips and breaks acc. to IEC/EN 61000- 4-11  Immunity to voltage dips and breaks acc. to IEC/EN 61000- 4-11  Sopring terminals (CISPR2), ENS5011 (CISPR1)  Connection capacity - without ferrule  2 x 2,5 mm²  Connection capacity - without ferrule  2 x 1,5 mm²  Spring terminals, 2 terminals per connection point - rigid wire  Spring terminals, 2 terminals per connection point - rigid wire  Weight : casing 17,5 mm  Weight : casing 17,5 mm  Weight : casing 17,5 mm  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (direct 2kV / Capacitive coupling clamp 1 KV)  Level III (2 KV / Common mode 1 KV)  Level III (2 KV / Capacitive coupling clamp 1 KV)  Level III (10V rms : 0.15 M Hz to 80 M Hz)  Level III (10V rms : 0.15 M Hz to 80 M Hz)  Level III (10V rms : 0.15 M Hz to 80 M Hz)  Level III (10V rms : 0.15 M Hz to 80 M Hz)  Level III (10V rms : 0.15 M Hz to 80 M Hz)  Level III (10V rms :		Level III (Air 8 KV / Contact 6 KV)
Immunity to shock waves on power supply acc. to IEC/EN 61000-4-5  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode 2 KV/residual current mode 1KV)  1000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode 2 KV/residual current mode 1KV)  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Immunity to radio frequency in common frequency in	field acc. IEC/EN 61000-4-3	Level III 10V/m (80 M Hz to 1 G Hz)
Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6  Level III (10V rms : 0.15 M Hz to 80 M Hz)  Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-10  Immunity to voltage dips and breaks acc. to IEC/EN 61000-30 %/10 ms 60 %/100 ms > 95 %/5 s  Mains-borne and radiated emissions acc. to EN 55022 (CISPR22), EN55011 (CISPR11)  Fixing : Symmetrical DIN rail 35 mm  Connection capacity - without ferrule 2 x 2,5 mm²  Connection capacity - with ferrule 2 x 1,5 mm²  Spring terminals, 2 terminals per connection point - figid wire 4.5 mm²  Housing material Self-extinguishing 60 g  Weight : casing 17,5 mm 90 g  Weight : casing 22,5 mm 90	Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4	Level III (direct 2kV / Capacitive coupling clamp 1 KV)
IEC/EN 61000-4-6   Level III (10V rms : 0.15 M Hz to 80 M Hz)		Level III (2 KV / common mode 2 KV/residual current mode 1KV)
4-11 60 %/100 ms > 95 %/5 s  Mains-borne and radiated emissions acc. to EN 55022 (CISPR22), EN55011 (CISPR11)  Fixing: Symmetrical DIN rail 35 mm  Connection capacity - without ferrule 2 x 2,5 mm²  Connection capacity - with ferrule 2 x 1,5 mm²  Spring terminals, 2 terminals per connection point - flexible wire 1,5 mm²  Spring terminals, 2 terminals per connection point - rigid wire 2,5 mm²  Housing material Self-extinguishing 60 g  Weight: casing 17,5 mm 60 g  Weight: casing 22,5 mm 90 g		Level III (10V rms : 0.15 M Hz to 80 M Hz)
Class B  Fixing: Symmetrical DIN rail 35 mm  Connection capacity - without ferrule 2 x 2,5 mm²  Connection capacity - with ferrule 2 x 1,5 mm²  Spring terminals, 2 terminals per connection point - flexible wire 1,5 mm²  Spring terminals, 2 terminals per connection point - rigid wire 2,5 mm²  Housing material Self-extinguishing  Weight: casing 17,5 mm 60 g  Weight: casing 22,5 mm 90 g		60 %/100 ms >
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		Class B
Connection capacity - with ferrule 2 x 1,5 mm²  Spring terminals, 2 terminals per connection point - flexible wire 1,5 mm²  Spring terminals, 2 terminals per connection point - rigid wire 2,5 mm²  Housing material Self-extinguishing  Weight: casing 17,5 mm 60 g  Weight: casing 22,5 mm 90 g	Fixing : Symmetrical DIN rail	35 mm
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	Connection capacity - without ferrule	2 x 2,5 mm <sup>2</sup>
flexible wire  Spring terminals, 2 terminals per connection point - rigid wire  2,5 mm²  Housing material  Self-extinguishing  Weight: casing 17,5 mm  60 g  Weight: casing 22,5 mm  90 g	Programme and the second secon	2 x 1,5 mm <sup>2</sup>
wire         2,5 mm²           Housing material         Self-extinguishing           Weight: casing 17,5 mm         60 g           Weight: casing 22,5 mm         90 g	flexible wire	1,5 mm <sup>2</sup>
Weight: casing 17,5 mm         60 g           Weight: casing 22,5 mm         90 g		2,5 mm <sup>2</sup>
Weight: casing 22,5 mm 90 g		Self-extinguishing
		60 g
Weight: plug-in casing 80 g		·
	Weight : plug-in casing	80 g

## Display

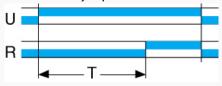
Display
State displayed by 2 LEDs
- Flashing green when on
- Relay LED yellow during timing
Green LED operation indicator
Pulsing:
- Timer on, no timing in process
Permanently lit:
- Relay waiting, no timing in process

Dimensions (mm)



#### Curves

Function A - 1 relay output

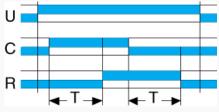


### Function A

Delay on energisation

#### Curves

Function Ac - 1 relay output

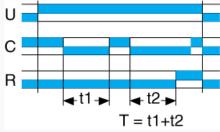


### **Function Ac**

Timing after closing and opening of control contact

### Curves

Function At - 1 relay output

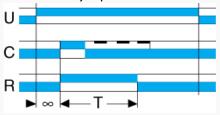


**Function At** 

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#### Curves

Function B - 1 relay output

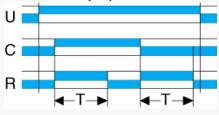


Function B

Timing on impulse one shot

### Curves

Function Bw - 1 relay output

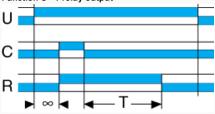


**Function Bw** 

Pulse output (adjustable)

#### Curves

Function C - 1 relay output

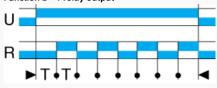


Function C

Timing after impulse

## Curves

Function D - 1 relay output

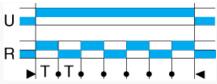


Function D

Flip-flop Pause start

Curvos

Function Di - 1 relay output

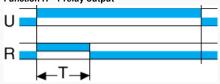


#### **Function Di**

Flip-flop Pulse start

#### Curves

### Function H - 1 relay output

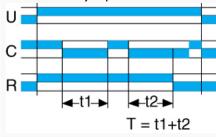


### Function H

Timing on energisation

#### Curves

### Function Ht - 1 relay output

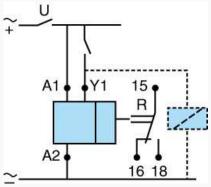


#### **Function Ht**

Delay on energisation with memory

#### Connections

### 1 changeover relay output



### Functions

A - At / H - Ht / B / C / Di - D / Ac / Bw Ad - Ah - N - O - P - Pt - TL - Tt - W