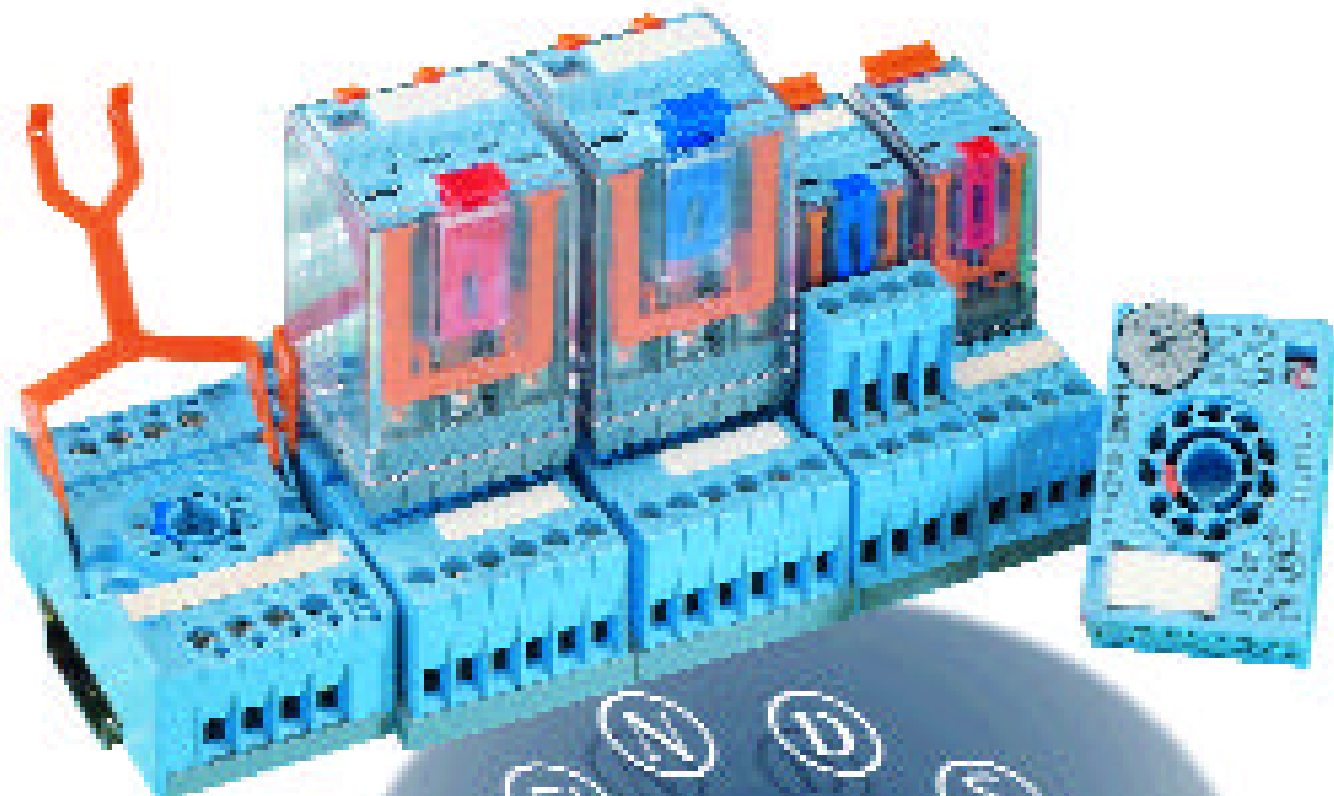


# Short Form Catalog MR-C Relays QR-C Relays TIME CUBE®

**RELECO**

DESIGN & FUNCTION  
IN PERFECT HARMONY



CE

# Benefits of the new

# Plus system

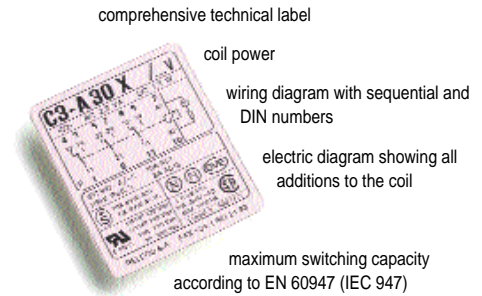
Five colors for an easier identification of coil voltage

- AC
  - red: 230 Vac
  - dark red: others Vac
- DC
  - grey: Vac/dc
  - dark blue: others Vdc
  - blue: 24 Vdc

Push-to-test pull-to-lock button (PTPL)

Double window for the mechanical identification

Marking label (can be marked with plotter)



Approvals

Coil voltage marked on the top face of the relay

LED

## GENERAL INFORMATION

### Electrical and Mechanical Life

Designed to withstand 100.000 operations at full rated load and more than  $20 \times 10^6$  mechanical operations (measured at 6.000 operations/hour). Periodical Laboratory life tests give values higher than  $100 \times 10^6$  operations.

The maximum switching frequency is 1.200 operations/hour at max. rated load and 6.000 operations/hour at 50% of max. load.

### Materials and Temperatures

All parts are made of high performance, self extinguishing materials for electrical equipment which can withstand temperatures up to 130°C without deformation.

Operating and storage temperatures are respectively -20 to +60°C and -20 to +100°C

### Coil

The temperature rise in the coil when permanently energized, at nominal voltage, is 45°C max. at AC and 35°C max. at DC.

All coils are calculated to withstand a permanent connection at maximum ambient temperature of 60°C and 1.10 x nominal voltage.

Coil inrush power (AC relays only) is approx. 1.80 x nominal power.

### Standard Voltages

AC 24, 48, 115 (110-120), 230 V

DC 12, 24, 48, 110, 120-125, 220 V

All other voltages available upon request.

### Protection Class

IP40 for relays and Time Cubes.

### Socket Terminal Block

Suitable for cables on diameters from 2.25 mm<sup>2</sup> down to 0.14 mm<sup>2</sup>.

### Approvals (according to model)

UL (USA), CSA (Canada), SEV (Switzerland), NEMKO (Norway), SETI (Finland), SEMKO (Sweden), DEMKO (Denmark), ÖVE (Austria), LLOYD'S (UK).

Comply with EN 60 947/4 & 5 (IEC 947)

All approval values available upon request.

### Mounting

Universal mounting: DIN-46277 rail and panel.

### Standard Packing

10-pieces recyclable cardboard box.

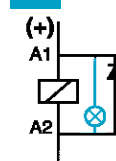
## TECHNICAL DATA

Sequential numbers

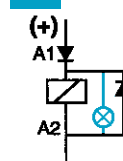


DIN, EN, IEC numbers

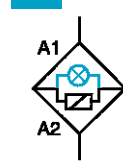
DX



FX



BX



**Contacts** Max. switching cap. (poll. 3 - industrial)

**Coil** Nominal power AC / DC

Coil operating voltage

Operating times Max. Pull-in / Drop-out

### Other executions

Magnetic latching

Sensitive

Bifurcated contacts for low level signal

**NEW**

Open Gap (>1.5 mm) contacts

**NEW**

Double make contact

**NEW**

Double make contact with magnetic blow out

**NEW**

### Sockets

for DIN rail

for panel -L / for PCB -P / for PCB with flange -PO

## PART NUMBER KEY

C3 - A 3 0 D X / 120 V AC

Model

Types

Number of poles

Contact material

Voltage

LED

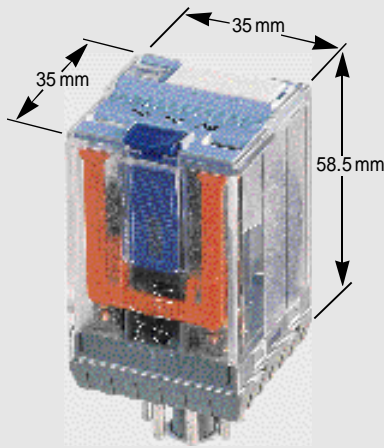
### Addition to the coil

D - Free wheeling diode (FWD)

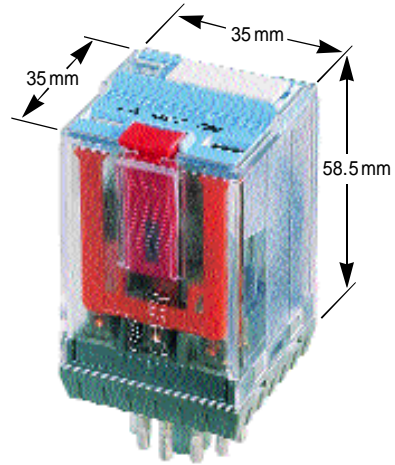
F - FWD and polarity diode

B - Rectifier bridge (max. 48 V)

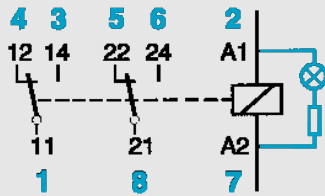
## Standard 8-pin C2-A20 X /...v



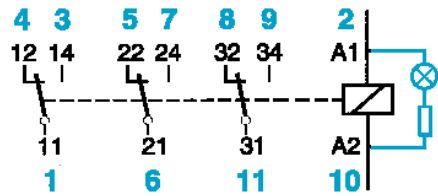
## Standard 11-pin C3-A30 X /...v



### C2-A20 X



### C3-A30 X



10 A / 250 V AC1      2500 VA

10 A / 250 V AC1      2500 VA

2.2 VA      1.3 W

2,2 VA      1,3 W

0.80 x U<sub>N</sub>      1.1 x U<sub>N</sub>

0,80 x U<sub>N</sub>      1,1 x U<sub>N</sub>

16 ms      8 ms

16 ms      8 ms

### Model

### Model

**C2-T21 X**      10 mA @ 5V... 6 A/250 V AC1

**C2-G20 X**      110 W / 1 A @ 110 V DC1

**C3-R20**      ON 2,5 VA/W OFF 0,5 VA/W

**C3-S** (250 mW) / **C3-E** (500 mW) / **C3-N** (800 mW)

**C3-T31 X**      10 mA @ 5V...6 A / 250 V AC1

**C3-G30 X**      110 W / 1 A @ 110 V DC1

**C3-X10 X**      6 A @ 110 V / 1,2 A @ 220 V DC1

**C3-M10 X**      10 A DC1 / 2 A DC13 @ 220 V

**S2-S**

**S2-B**

**S3-S**

**S3-B**

**S3-MP**

**S2-L**

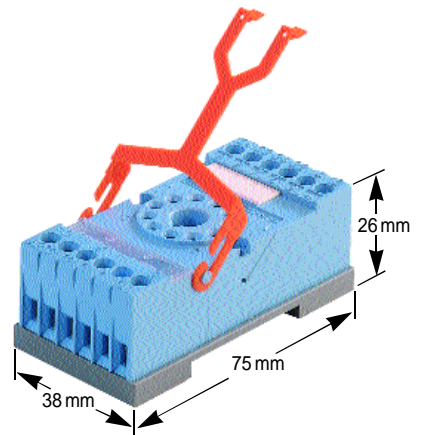
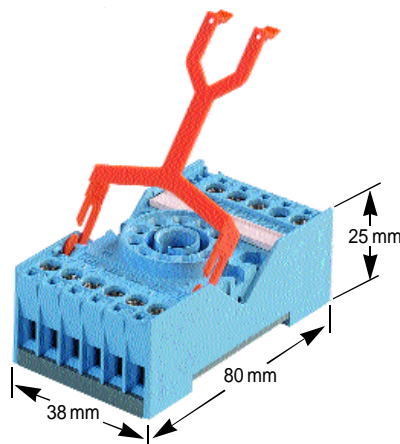
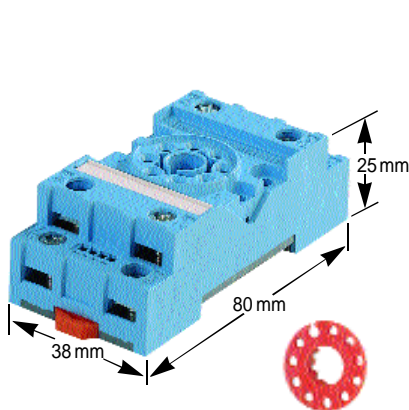
–

**S2-PO**

**S3-L**

–

**S3-PO**



Optional relay/socket Coding Ring

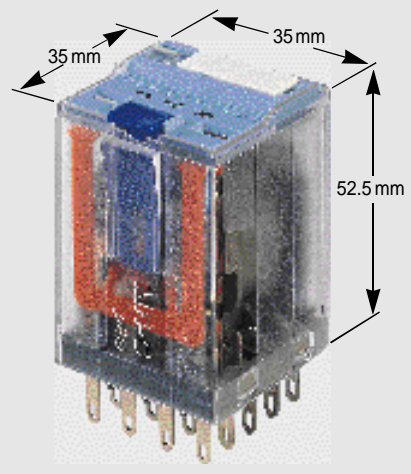
8 pin      **S2-S**  
11 pin      **S3-S**

8 pin      **S2-B**  
11 pin      **S3-B**

11 pin      **S3-MP**

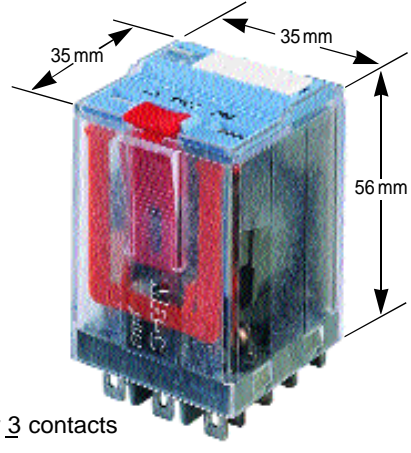
**Plug-in 4-pole, 10A**

**C4-A40 X /...v**



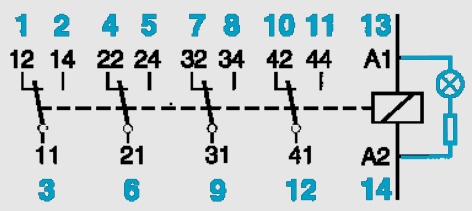
**Flat blade, 16A**

**C5-A30 X /...v**

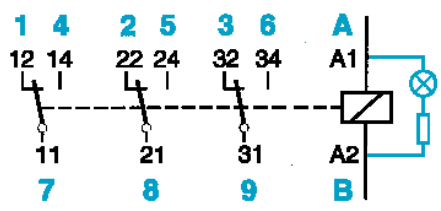


Note: 1, 2 or 3 contacts

**C4-A40 X**



**C5-A30 X**



10 A / 250 V AC1	2000 VA
2.4 VA	1.4 W
0.80 x U <sub>N</sub>	1.1 x U <sub>N</sub>
20 ms	8 ms

16 A / 500 V AC1	3600 VA
2.4 VA	1.4 W
0.80 x U <sub>N</sub>	1.1 x U <sub>N</sub>
20 ms	10 ms

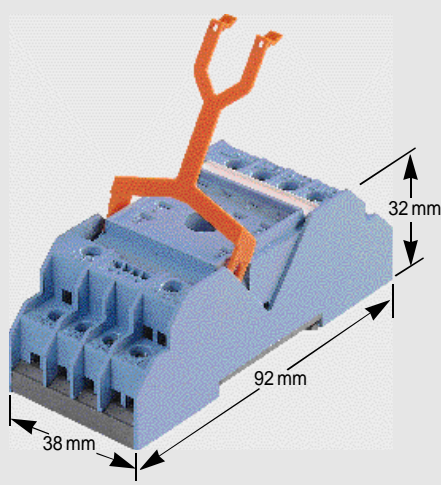
Model		
C4-R30	ON 2.5 VA/W	OFF 0.5 VA/W

Model		
C5-R20	ON 2.5 VA/W	OFF 0.5 VA/W

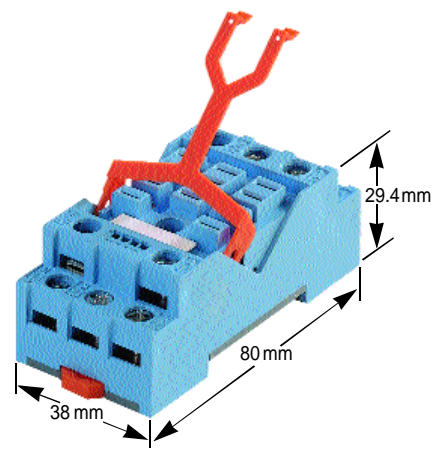
C5-G30 X	110 W / 1 A @ 110 V DC1
C5-X10 X	6 A @ 110 V / 1.2 A @ 220 V DC1
C5-M10 X	10 A DC1 / 2 A DC13 @ 220 V

-	S4-B	-
S4-L	S4-P	S4-PO

S5-S		
S5-L	S5-P	S5-PO



S4-B

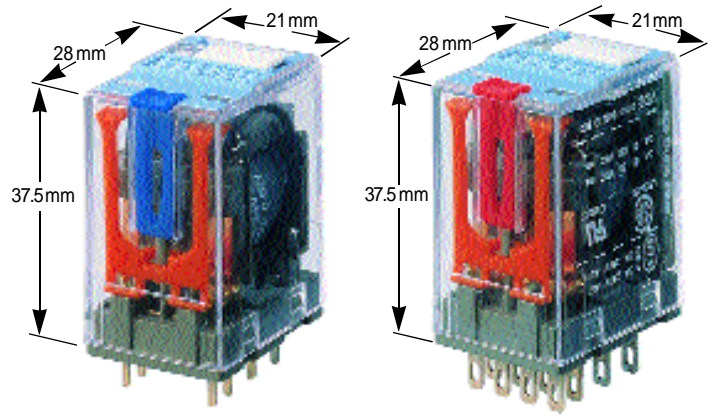
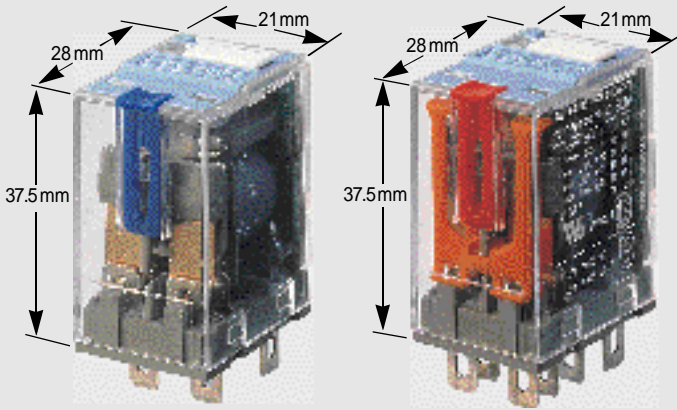


S5-S

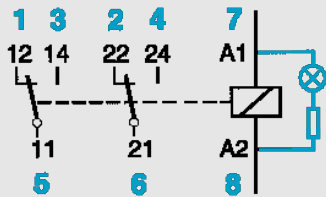
## Miniature 2-pole, 10A C7-A20 X /...v

## Miniature 4-pole C9-A41 X /...v

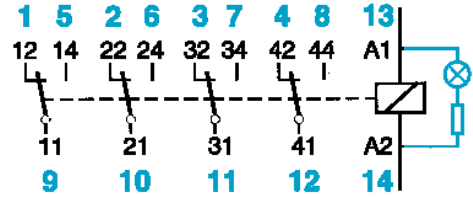
## C9-A41 X /...v



### C7-A20 X



### C9-A41 X



10 A / 250 V AC1	2500 VA
1.5 VA	1 W
0.80 x U <sub>N</sub>	1.1 x U <sub>N</sub>
16 ms	8 ms

3 A / 250 V AC1	250 V (Poll 2)	700 VA
1.5 VA	1 W	
0.80 x U <sub>N</sub>	1.1 x U <sub>N</sub>	
16 ms	8 ms	

### Model

### Model

<b>C9-R21</b>	<b>ON 1.5 VA /W</b>	<b>OFF 0.3 VA /W</b>
<b>C9-E21</b>	0.8 VA	600 mW

**C7-T21 X** 10 mA @ 5 V... 6 A / 250 V AC1

**C7-G20 X** (0.8 A @ 110 V DC1) **C7-G10 X** (16 A / 250 V AC1)

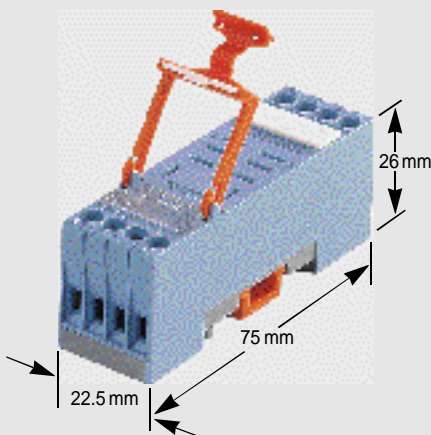
**C7-X10 X** 6 A @ 110 V / 1 A @ 220 V DC1

### S7-MP

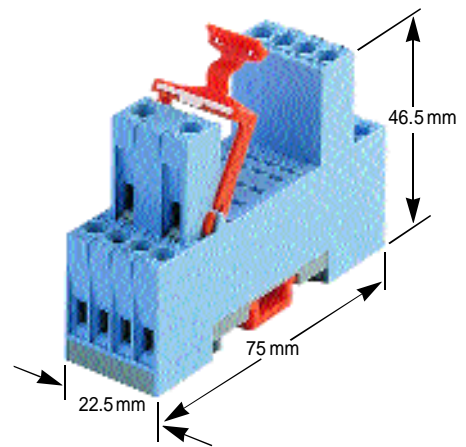
### S9-M

**S7-L**      **S7-P**      **S7-PO**

**S9-L**      **S9-P**      **S9-PO**



**S7-MP**



**S9-M**

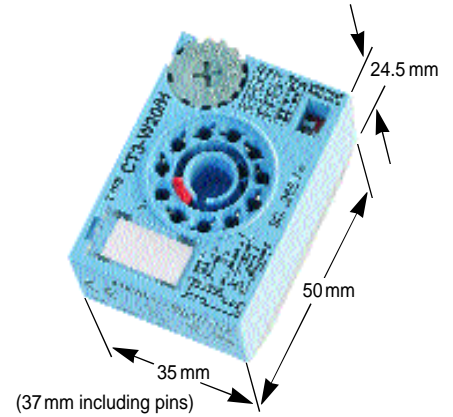
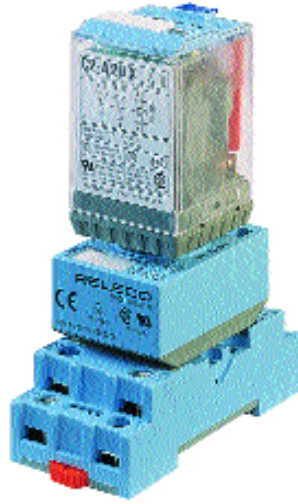
# Time Cube CT2 (8 pin) and CT3 (11 pin)

## The Time Link

Releco's Timer module, the Time Cube, connects any brand of 8 and 11-pin relay and socket, transforming standard relays into timer relays.

Installation could not be easier. Remove the relay, insert the Time Cube in the socket and replace the relay. Easy as 1-2-3.

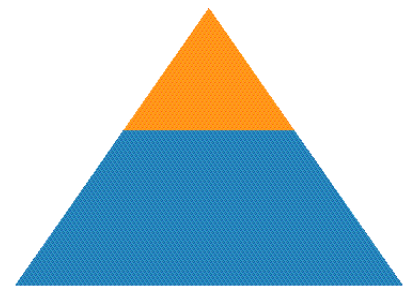
The Time Cube adds only 25 mm to the overall height of the relay. Just enough height to spot the relay, with special timer function, into your board.



Types	
<p><b>On delay</b></p> <p>After driving by 2-10 (2-7), (R) energizes according to (t). (R) falls back again when 2-10 (2-7) switches out.</p>	
<p><b>On shot leading edge</b></p> <p>After driving by 2-10 (2-7), (R) energizes immediately according to (t). (R) falls back again when 2-10 (2-7) switches out prematurely.</p>	
<p><b>Blinker</b></p> <p>After driving by 2-10 (2-7), (R) energizes and falls back periodic intermittently for the set time lag <math>t_1</math> and <math>t_2</math>, <math>t_1 = t_2</math>, <math>f = 1/t_3</math>.</p>	
<p><b>Off delay</b></p> <p>After driving by (S), (R) energizes immediately. After switching out of (S), (R) releases according to (t).</p>	
<p><b>On shot leading edge</b></p> <p>After driving by (S), (momentary or continuous), (R) energizes immediately according to (t).</p>	

Operating voltage ranges
<p><b>H</b>: 90 to 265 Vac/dc  <b>L</b>: 20 to 65 Vac/dc (75 Vdc)  <b>S</b>: 9.5 to 18 Vdc</p>
<p><b>U</b>: 180 to 265 Vac/dc  <b>M</b>: 90 to 150 Vac/dc  <b>L</b>: 20 to 65 Vac/dc (75 Vdc)  <b>S</b>: 9.5 to 18 Vdc</p>

Part Number Key																					
<b>CT3-E20/H</b>																					
<p><b>Model</b>            CT2: 8-pin            CT3: 11-pin</p>	<p><b>Operating voltage ranges</b>            H, L, S, U, M</p>																				
<p><b>Types</b>            E, W, B, A, K</p>	<p><b>Time range</b>            20, 25</p>																				
Time range																					
<p><b>20</b>    <b>0.2s-12 min.</b></p> <table border="1"> <tr> <th>Partial range</th> <th>Switch</th> </tr> <tr> <td>0.2 - 3 s</td> <td></td> </tr> <tr> <td>0.8 - 12 s</td> <td></td> </tr> <tr> <td>0.1 - 1.5 min.</td> <td></td> </tr> <tr> <td>0.8 - 12 min.</td> <td></td> </tr> </table>	Partial range	Switch	0.2 - 3 s		0.8 - 12 s		0.1 - 1.5 min.		0.8 - 12 min.		<p><b>25</b>    <b>0.8s-30 min.</b></p> <table border="1"> <tr> <th>Partial range</th> <th>Switch</th> </tr> <tr> <td>0.8 - 8 s</td> <td></td> </tr> <tr> <td>3 - 30 s</td> <td></td> </tr> <tr> <td>0.4 - 4 min.</td> <td></td> </tr> <tr> <td>3 - 30 min.</td> <td></td> </tr> </table>	Partial range	Switch	0.8 - 8 s		3 - 30 s		0.4 - 4 min.		3 - 30 min.	
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3 - 30 min.																					



**RELECO** by TURCK  
**PEAK PERFORMANCE RELAYS**

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