



Time relay with forcibly guided contacts

CTF



Multifunctional time relay for safety-critical control and signalling circuits

- Hardware time function as an alternative to PLCs and SIL relays
- Forcibly guided contacts for clear status feedback
- 2-pole: 2 changeover contacts or 1 NO + 1 NC
- Software-free ASIC logic for deterministic behaviour
- Power supply: 24 V AC/DC or 110 – 240 V
- Narrow installation width of 17.5 mm

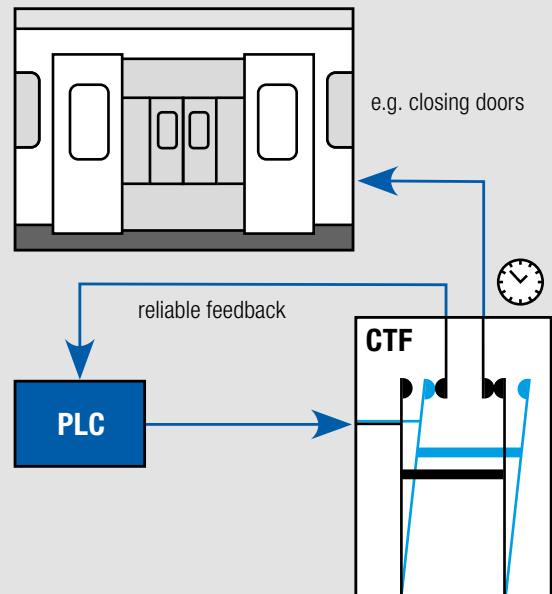


The CTF time relays combine reliable contact technology with hardware-based timing control for safety-critical railway and industrial applications.

The CTF series supports timing functions in safety-critical control and signalling circuits in the railway and industrial sectors. It enables a cost-effective and straightforward system design in applications that require a reliable timing function, without the additional complexity of a SIL architecture.

The CTF combines a compact design with reliable contact-based feedback of the switching status. Forcibly guided contacts support the **diagnosis of contact faults** and prevent undefined states. This allows the status to be **clearly reported** to a control system, even in monitoring and interlocking circuits.

With a mounting width of 17.5 mm, the devices can also be integrated into space-constrained control cabinets. The time range from 40 ms to 80 h covers both short delays and long-duration timing functions.



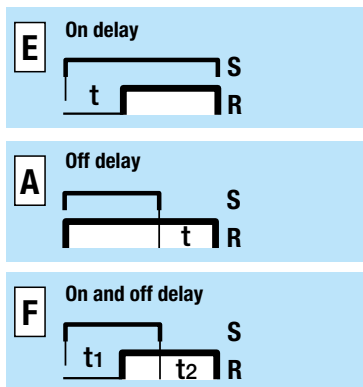
CTF as a cost-effective alternative to PLCs and SIL

CTF time relays are designed for applications requiring a robust timing function with **unambiguous switching states**, without the complexity of a PLC solution or the cost of a SIL-certified safety relay. The hardware-based design **reduces dependencies** on software, versions and system states.

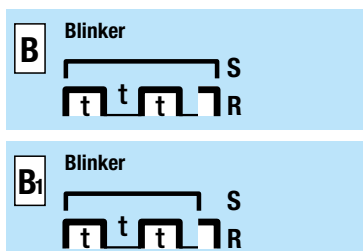
Compared to PLC timing functions, the effort required for verification and commissioning is significantly reduced.

Time functions

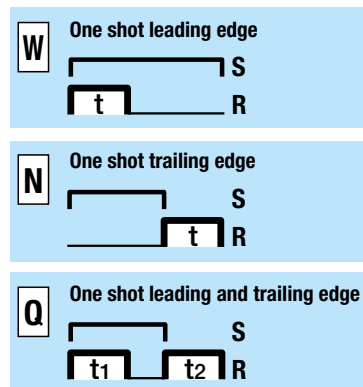
Delay functions



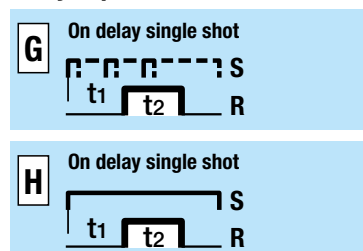
Blinker functions



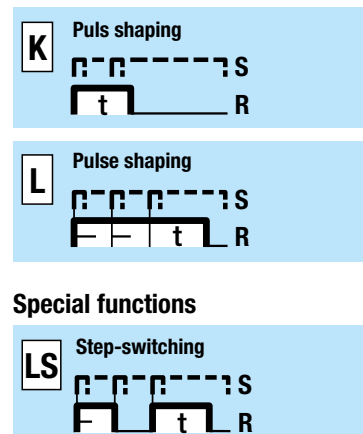
Shot timing modes



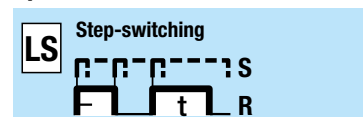
Delayed pulse



Puls shaping



Special functions

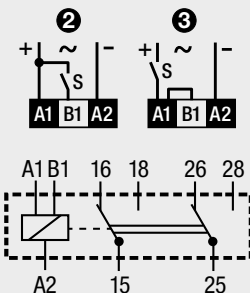
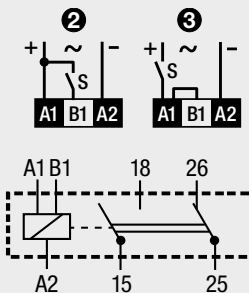
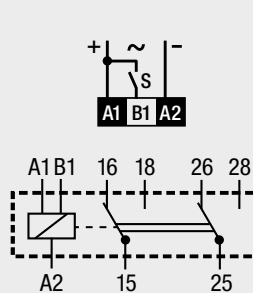


S = Triggering R = Output circuit t = time

Brochure
Time functions



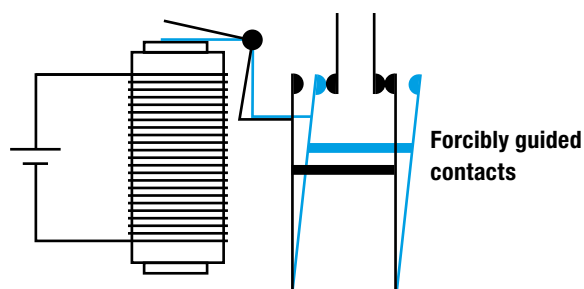


Technical data		CTF-124	CTF-134	CTF-224
The time relays are available either with two changeover contacts (2 CO, Type B) or with one normally closed and one normally open contact (1 NC + 1 NO, Type A). The relay contacts are rated up to 6 A at 250 V and are gold-plated. This ensures high contact reliability even with small loads from 10 mA and makes the devices particularly suitable for control and signal circuits.				
Time functions		E, A, F, B, B1, W, N, Q, G, H, K, L		LS
Number of forcibly guided contacts		2 CO	1 NO + 1 NC	2 CO
Control voltage		24 V AC/DC 110-240 V AC/DC	24 V AC/DC	
Rated current		6 A		
Minimum load		10 mA, 12 V		
Inrush current		16 A, 10 ms		
Frequency range		0, 50 ... 60 Hz		
Wiring diagram				

Forcibly guided contacts ensure clear switching states

The contacts are mechanically coupled, meaning that simultaneous closure is structurally prevented. This allows contact faults, such as welded contacts, to be reliably detected and prevents undefined switching states. This contact technology is typically used in safety-critical applications, such as release, interlock and monitoring circuits.

Furthermore, the devices are based on an application-specific integrated circuit (ASIC) and therefore do not require the use of a microprocessor. This hardware-based solution enhances functional safety and offers advantages in terms of cybersecurity, as there is no software-based logic or programmable components.





Quick setting of long-duration functions

Long-duration functions can be set quickly and reliably using the CTF series, without having to wait for the full duration to elapse during commissioning. The time is first set and verified within a short time range and then transferred to the desired long time range.

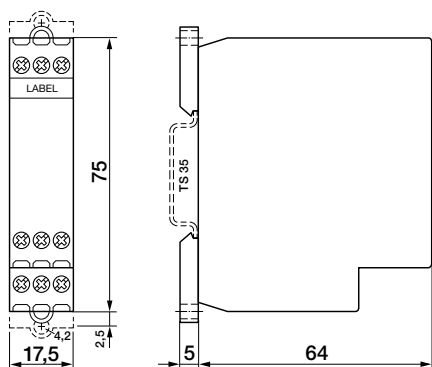
Example for 38 hours:

1. Set the time range to **80 s**
2. Set the potentiometer to just under **50%**
3. **Verify** the elapsed time with a stopwatch: 38 s
4. Then switch the time range to **80 h**
5. The set time now corresponds to **38 h**

Long-duration functions can be set and tested quickly, precisely and without having to wait for hours.



Dimensions



Approvals

Standards IEC/EN 61812-1, IEC/EN 61810-3
EN 50155, EN 45545-2

Approvals



Product key

CT F - 2 2 4 R / DC24V

Product family

CT = ComatReleco Time relay

Forcibly-guided

Time functions

- 1** = E, A, K, N, B1, F, G, Q, L, W, B, H
2 = LS

Contact type

- 1** = Not used
2 = 2 change-over contacts
3 = 1 normally open contact + 1 normally closed contact

Control voltage

AC = Alternating current
DC = Direct current
UC = AC/DC

Area of application

None = Industry
R = Railway

Contact materials

4 = AgNi + Au