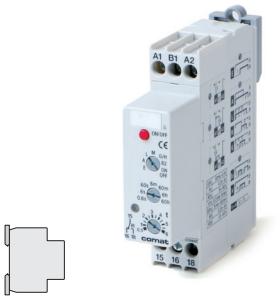
CIM1, CIM1R

Multifunction | 24 … 240 V UC | 1 CO



Time data

Timing functions	fig. 1 1: E 2: A, K, N, B1, S, LS 3: B, W
Timing range	50 ms … 60 h
Timing scale	0.6 s / 6 s / 60 s / 6 min / 60 min / 6 h / 60 h

Main circuit

Number of contacts	1 CO
Contact Material	AgNi
Rated voltage	250 V AC
Rated current	16 A
Minimum load	10 mA, 10 V
Inrush current	30 A, 10 ms
Rated load DC	fig. 2
Rated load AC-1	4000 VA
Mechanical endurance (cycles)	3 x 10^7
Electrical endurance at rated load AC-1 (cycles)	fig. 3

Control circuit

Nominal voltage	24 … 240 V UC
Operating voltage range	16.8 … 250 V
Power consumption AC / DC	1.2 VA / 430 mW
Typ. input current on command input AC / DC	22 / 22 mA
Typ. threshold voltage on command input AC / DC	13 V / 15 V
Rated frequency	16 … 63 Hz

Insulation

Rated test voltage control / main circuit	2.5 kV rms / 1 min
Rated test voltage open contact	1 kV rms / 1 min
Pollution degree	2
Overvoltage category	III

General data

Ambient temperature storage	-40 … 85 °C
Ambient temperature operation	-40 … 40 °C
Ambient temperature operation derated power	-40 … 60 °C (I_N 13 A)
Ambient temperature operation railway version	-40 … 70 °C
Conductor cross section	2.5 mm^2, 2 x 1.5 mm^2
Nominal screw torque	0.4 Nm
Module width	fig. 4
Weight	70 g
Protection degree	IP 20
Housing material	PC

Product references

Types	Product reference	24-240
UC supply	CIM1/UC…V	✓
UC supply, Railway version	CIM1R/UC…V	✓

"…" list control circuit voltage to complete product references.
Other voltages on request. Please contact support@comatreleco.com.

fig. 1. Wiring diagram

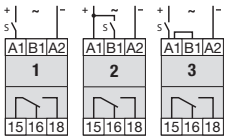


fig. 2. DC load limit curve

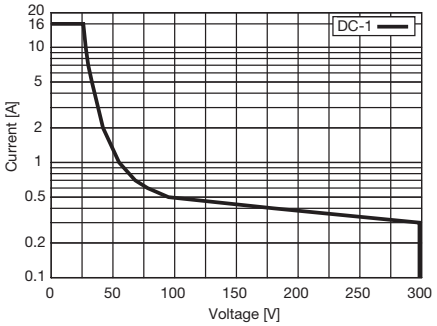


fig. 3. AC voltage endurance

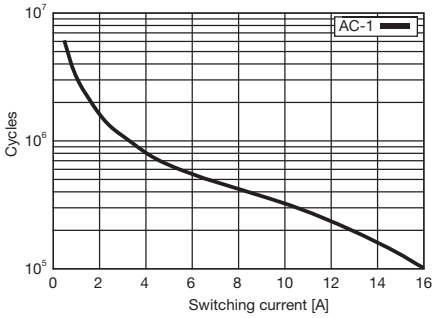
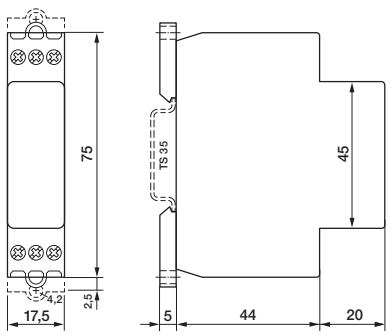


fig. 4. Dimensions (mm)



Standards and approvals

Standards	IEC/EN 60947, IEC/EN 50155
Approvals	

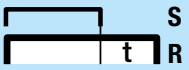
Time functions

Delay functions

E **On delay**

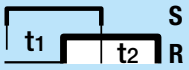
S ⇒ R on with delay
SOFF ⇒ R off

A **Off delay**



S ⇒ R on
SOFF ⇒ R off with delay

F **On and off delay**



S ⇒ R on with delay (t1)
SOFF ⇒ R off with delay (t2)

Puls shaping

K **Puls shaping**

S (pulse or continuous contact)
⇒ R on for t
S --- no influence on R and t

L **Pulse shaping,** retrigger (subsequ.time operation from 0)

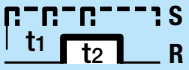
S (pulse or continuous contact)
⇒ R on for t
S on for t = tRESET

M **Puls shaping**

SOFF ⇒ R on for t
S --- no influence on R and t

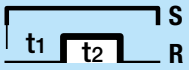
Delayed pulse

G **On delay single shot**



S (pulse or continuous contact)
⇒ R after t1 on for t2
S --- no influence on R and t

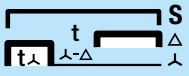
H **On delay single shot**



S ⇒ R after t1 on for t2
SOFF ⇒ R off

Special functions

Y **Star-delta timer**



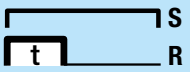
S ⇒ ⅄ on for t⅄
⅄OFF ⇒ △ on with delay for t⅄-△
SOFF ⇒ △ off

X1 **Restart delay**

S ⇒ R on
SOFF ⇒ R off and starts t
S ⇒ R restart only after t

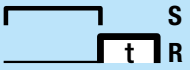
Shot timing modes

W **One shot leading edge**



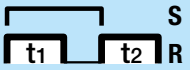
S ⇒ R on for t
SOFF ⇒ R off
(pulse clipping)

N **One shot trailing edge**



SOFF ⇒ R on for t
S on for t ⇒ R off

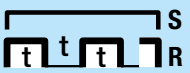
Q **One shot leading and trailing edge**



S ⇒ R on for t1
SOFF ⇒ R on for t2
SOFF off for t1 ⇒ R off

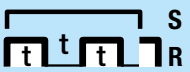
Blinker functions

B **Blinker,** pulse start



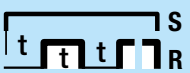
S ⇒ R on/off periodically
according to t
SOFF ⇒ R off

B1 **Blinker,** pulse start, trailing pulse



S ⇒ R on/off periodically
according to t
SOFF: last pulse = t

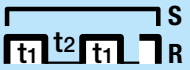
B2 **Blinker,** interval start



S ⇒ R after t on/off periodically
according to t
SOFF ⇒ R off

Repeat cycle timer

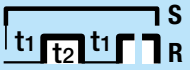
I **Repeat cycle timer,** pulse start



S ⇒ R on/off periodically
according to t1 and t2
SOFF ⇒ R off

P **Repeat cycle timer,** interval start

C55, CT1: t2 ⊓ t1



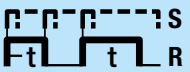
S ⇒ R after t1 (t2) on/off periodically according to t2 and t1
SOFF ⇒ R off

Special functions

S **Step-on / Step-off switch**

S ⇒ R on/off

LS **Step-switching** (staircase lighting timer), with time lapse



S ⇒ R on and starts t
S on for t ⇒ R off

Stop / Reset

t STOP SSTOP interrupts t (t-addition)

t RESET SRESET reset t
t restarts immediately

T t is stopped ⇒ R on/off

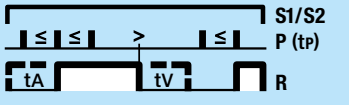
T Test

S = Triggering
R = Output circuit
⇒ = switches…

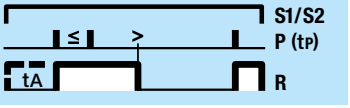
ON OFF

Pulse sequence monitoring

U



V



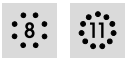
S1/S2 = Monitoring start
P = Pulse sequence
tP = Pulse separation

≤: Pulse separation is **smaller** than the time tP
>: Pulse separation is **larger** than the time tP

Start with S1 = **without** start-up short-out tA
Start with S2 = start-up short-out tA

tV = settable alarm delay
delay (tA = tV)

Time Cubes



Type	Function																			t-Stop	t-Reset	Ext. Poti	t max.			
	E	A	F	W	N	Q	K	L	M	B	B_1	B_2	G	H	I	P	S	LS	X_1	U	V				sec	min	h	d
CT..-E 30	●																									30		
CT..-A 30		●																								30		
CT..-K 30				●			●																			30		
CT..-B 30										●																30		

Modular plug-in Time Relays (CT-System)

Type	Function																			t-Stop	t-Reset	Ext. Poti	t max.			
	E	A	F	W	N	Q	K	L	M	B	B_1	B_2	G	H	I	P	S	LS	X_1	U	V				sec	min	h	d
CT32…	●	●		●	●		●			●	●															60*		
CT33…	●	●	△	●	●	△	●	●		●	●		▲	▲													60*	
CT36…															●	●											60*	

Plug-in Time Relays

Type	Function																			t-Stop	t-Reset	Ext. Poti	t max.			
	E	A	F	W	N	Q	K	L	M	B	B_1	B_2	G	H	I	P	S	LS	X_1	U	V				sec	min	h	d
C55	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●					60
C55.3	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●					60
C55.4	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●					60
C56	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●					60
C64		■			■																					20		
CS2	●	●		●	●		●			●		●											●				60*	
CS3	●	●		●	●		●			●		●															60*	

Plug-in Time Relays

Type	Function																			t-Stop	t-Reset	Ext. Poti	t max.			
	E	A	F	W	N	Q	K	L	M	B	B_1	B_2	G	H	I	P	S	LS	X_1	U	V				sec	min	h	d
C83	●	●	△	●	●	△	●	●		●	●		▲	▲													60*	
C85			●			●							●	●	●	●											60*	

DIN Time Relays

DIN

Type	Function																				t-Stop	t-Reset	Ext. Poti	t max.			
	E	A	F	W	N	Q	K	L	M	B	B_1	B_2	G	H	I	P	S	LS	Y	U	V				sec	min	h	d
AA2 - AA2M		●																								1,5/12		
AE2 - AE2M	●																									1,5/12		
AL1								●																				
AL3								●									●	●								60		
AL4								●									●	●								60		
AL5																	●											
AM1	●			●						●		●														60		
AM2	●	●		●			●																			60		
AM3 [1]	●	●		●			●																			60		
CM2	●	●		●			●															●	●	●			12	
CM3	●	●		●	●		●			●	●																60*	
CMD11 A		●																										
CMD11 E	●																											
CIM1	●	●		●	●		●			●	●						●	●									60*	
CIM12	●	●		●	●		●			●	●						●	●									60*	
CIM13	●	●		●	●		●			●	●						●	●									60*	
CIM14	●	●		●	●		●			●	●						●	●									60*	
CIM2	●	●						●	●			●	●	●													60*	
CIM22	●	●						●	●			●	●	●													60*	
CIM23	●	●						●	●			●	●	●													60*	
CIM3			●			●							●	●	●	●											60*	
CIM32			●			●							●	●	●	●											60*	
CIM33			●			●							●	●	●	●											60*	
CRV4	●	●	△	●	●	△	●	●	●	●	●	●	●	●			●	●						●			60*	
CSV4	●	●	△	●	●	△	●	●	●	●	●	●	●	●			●	●						●			10*	
CPF11		●					●	●																	0.6			
CY1																			●									

*** TF-60 Setting of long times**

The TF60 time setting methode permits short examination of long delay time settings. Elapsing times of hours can be monitored in the sec. range.

Example for a delay time of 38h:

1. Set range switch to 60sec
2. Set 38sec on the potentiometer
   (e.g. check 38sec by chronometer)
3. Set range switch to 60h

The delay time now amounts to 38h.

[1] alternatively with instantaneous contact
■ without auxiliary voltage (relay bistable)
□ without auxiliary voltage (relay monostable)
△ t2 = t1
▲ t2 = 0.5s