CIM23R

Multifunction | 24 … 240 V UC | 1 MOSFET

Time data

Timing functions	fig. 1 1: E 2: A, L, M, G 3: B2, H
Timing range	50 ms … 0.6 s / 0.5 s … 6 s / 5 s … 60 s / 0.5 min … 6 min / 5 min … 60 min / 0.5 h … 6 h / 5 h … 60 h
Timing scale	0.6 s / 6 s / 60 s / 6 min / 60 min / 6 h / 60 h

Main circuit

Number of outputs	1 NO
Output type	MOSFET
Rated voltage	24 V DC
Rated current	5 A
Minimum load	1 mA, 1 V
Inrush current	40 A, 10 us
Typ. leakage current	10 µA
Mechanical endurance (cycles)	∞
Electrical endurance at rated load DC-1 (cycles)	∞

Control circuit

Nominal voltage	24 … 240 V UC
Operating voltage range	16.8 … 250 V UC
Power consumption AC / DC	1.2 VA / 430 mW
Current consumption on supply A1-A2 AC / DC	< 23 mA / < 23 mA
Current consumption on input control B1 AC / DC	< 22 mA / < 22 mA
Threshold voltage on input control B1 AC / DC	13 V / 15 V
Rated frequency	0; 16 … 63 Hz

Insulation

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

General data

Ambient temperature storage (no ice)	-40 … 85 °C
Ambient temperature operation	-40 … 70 °C
Conductor cross section	2.5 mm², 2 x 1.5 mm²
Nominal screw torque	0.4 Nm
Dimensions	fig. 2
Weight	70 g
Protection degree	IP 20
Housing material	PC

Product reference

Description	Type	24-240
UC supply, Railway version	CIM23R/UC…V	✓

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

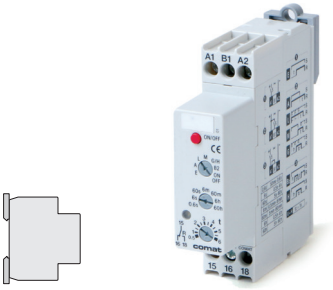


fig. 1. Wiring diagram

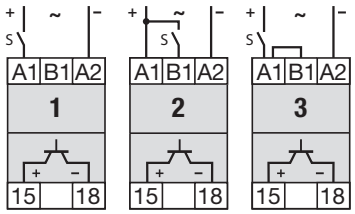
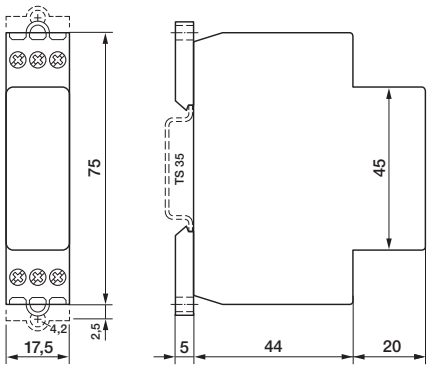


fig. 2. Dimensions (mm)



Standards and approvals

Standards	IEC/EN 60947;
Railway standards	EN 50155; EN 45545-2
Approvals	CE cULus

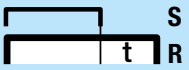
Time functions

Delay functions

E **On delay**

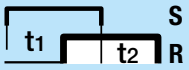
S ⇒ **R** on with delay
SOFF ⇒ **R** off

A **Off delay**



S ⇒ **R** on
SOFF ⇒ **R** off with delay

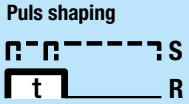
F **On and off delay**



S ⇒ **R** on with delay (**t**1)
SOFF ⇒ **R** off with delay (**t**2)

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)

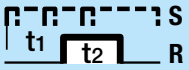
S (pulse or continuous contact)
⇒ **R** on for **t**
S on for **t** = **t**RESET

M **Puls shaping**

SOFF ⇒ **R** on for **t**
S ▬ no influence on **R** and **t**

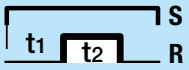
Delayed pulse

G **On delay single shot**



S (pulse or continuous contact)
⇒ **R** after **t**1 on for **t**2
S ▬ no influence on **R** and **t**

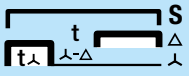
H **On delay single shot**



S ⇒ **R** after **t**1 on for **t**2
SOFF ⇒ **R** off

Special functions

Y **Star-delta timer**



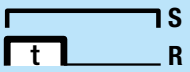
S ⇒ ⅄ on for **t**⅄
⅄**OFF** ⇒ △ on with delay for **t**⅄-△
SOFF ⇒ △ off

X1 **Restart delay**

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

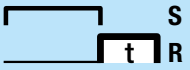
Shot timing modes

W **One shot leading edge**



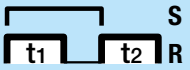
S ⇒ **R** on for **t**
SOFF ⇒ **R** off
(pulse clipping)

N **One shot trailing edge**



SOFF ⇒ **R** on for **t**
S on for **t** ⇒ **R** off

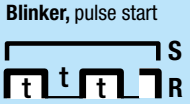
Q **One shot leading and trailing edge**



S ⇒ **R** on for **t**1
SOFF ⇒ **R** on for **t**2
SOFF off for **t**1 ⇒ **R** off

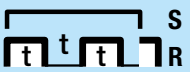
Blinker functions

B **Blinker,** pulse start



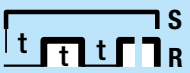
S ⇒ **R** on/off periodically
according to **t**
SOFF ⇒ **R** off

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



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

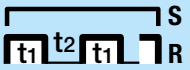
B2 **Blinker,** interval start



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

Repeat cycle timer

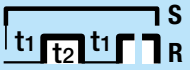
I **Repeat cycle timer,** pulse start



S ⇒ **R** on/off periodically
according to **t**1 and **t**2
SOFF ⇒ **R** off

P **Repeat cycle timer,** interval start

C55, CT1: $t_2 \sqcap t_1$



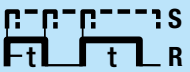
S ⇒ **R** after **t**1 (**t**2) on/off peri-
odically according to **t**2 and **t**1
SOFF ⇒ **R** off

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

tSTOP **S**STOP interrupts **t**
(**t**-addition)

tRESET **S**RESET reset **t**
t restarts immediately

T **t** is stopped
▬ ⇒ **R** on/off

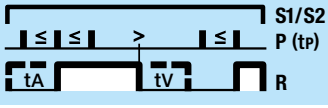
T **Test**

S = Triggering
R = Output circuit
⇒ = switches…

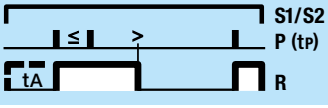
ON OFF

Pulse sequence monitoring

U



V



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

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

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

tV = settable alarm delay
delay (**t**A = **t**V)

Time Cubes

Type	Function																			t- Stop	t-Reset	Ext. Poti	t max.				
	E	A	F	W	N	Q	K	L	M	B	B1	B2	G	H	I	P	S	LS	X1	U	V				sec	min	h	d	Page
CT..-E 30	●																									30			229
CT..-A 30		●																								30			229
CT..-K 30				●			●																			30			229
CT..-B 30										●																30			229

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	B1	B2	G	H	I	P	S	LS	X1	U	V				sec	min	h	d	Page
CT32…	●	●		●	●		●			●	●															60*			233
CT33…	●	●	△	●	●	△	●	●		●	●		▲	▲													60*		234
CT36…															●	●											60*		235

Plug-in Time Relays

Type	Function																			t- Stop	t-Reset	Ext. Poti	t max.				
	E	A	F	W	N	Q	K	L	M	B	B1	B2	G	H	I	P	S	LS	X1	U	V				sec	min	h	d	Page
C55	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●				60	210
C55.3	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●				60	211
C55.4	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●				60	212
C56	●	●	●	●	●	●	●		●	●			●	●	●	●				●	●	●	●				60	213
C64		■			■																				20			214
CS2	●	●		●	●		●			●		●										●				60*		217
CS3	●	●		●	●		●			●		●														60*		218
RS 41-M	●	●		●			●			●														15				219

Plug-in Time Relays

Type	Function																			t- Stop	t-Reset	Ext. Poti	t max.				
	E	A	F	W	N	Q	K	L	M	B	B1	B2	G	H	I	P	S	LS	X1	U	V				sec	min	h	d	Page
C83	●	●	△	●	●	△	●	●		●	●		▲	▲													60*		215
C85			●			●							●	●	●	●											60*		216

DIN Time Relays

Type	Function																			t- Stop	t-Reset	Ext. Poti	t max.				
	E	A	F	W	N	Q	K	L	M	B	B1	B2	G	H	I	P	S	LS	Y	U	V				sec	min	h	d	Page
AA2 - AA2M		●																								1,5/12			170
AE2 - AE2M	●																									1,5/12			171
AL1								●																					195
AL3								●									●	●								60			196
AL4								●									●	●								60			197
AL5																	●												198
AM1	●			●						●		●														60			199
AM2	●	●		●			●																			60			200
AM3 [1]	●	●		●			●																			60			201
CM2	●	●		●			●															●	●	●			12		202
CM3	●	●		●	●		●			●	●																60*		203
CMD11 A		●																											168
CMD11 E	●																												169
CIM1	●	●		●	●		●			●	●						●	●									60*		176
CIM12	●	●		●	●		●			●	●						●	●									60*		178
CIM13	●	●		●	●		●			●	●						●	●									60*		180
CIM14	●	●		●	●		●			●	●						●	●									60*		182
CIM2	●	●						●	●			●	●	●													60*		183
CIM22	●	●						●	●			●	●	●													60*		185
CIM23	●	●						●	●			●	●	●													60*		187
CIM3			●			●							●	●	●	●											60*		189
CIM32			●			●							●	●	●	●											60*		191
CIM33			●			●							●	●	●	●											60*		193
CRV4	●	●	△	●	●	△	●	●	●	●	●	●	●	●			●	●						●			60*		205
CSV4	●	●	△	●	●	△	●	●	●	●	●	●	●	●			●	●						●			10*		206
CPF11		●					●	●																	0.6				204
CY1																			●										208

*** 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)
△ $t_2 = t_1$
▲ $t_2 = 0.5s$