

Power Relays/Miniature Contactors

3TG10 contactors 4-pole, 4 kW

Overview

Version

The 3TG10 power relays/miniature contactors with 4 main contacts are available with screw terminals or 6.3 mm x 0.8 mm flat connectors. The versions with screw terminals are climate-proof and finger-safe according to EN 61140.

The 3TG10 miniature contactors are characterized by their width of only 36 mm.

Surge suppression

The 3TG10 power relays/miniature contactors have an integrated protective circuit against opening surges.

Application

Because they are hum-free they are suitable for use in household appliances and distribution boards in office and residential areas. They can also be used for applications where there is little space such as air conditioners, heating systems, pumps and fans, i. e. for simple electrical controls.

AC and DC operation

EN 60947-1, EN 60947-4-1, EN 60947-5-1

Overload and short-circuit protection

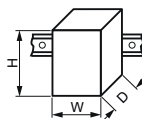
The 3UA7 overload relay can be used for overload protection. This applies to mounting onto contactors and to stand-alone installation.

Technical specifications

Type

Dimensions (W x H x D)

- With 3UA7 overload relay mounted below



3TG10

mm 36 x 56 x 56

mm 45 x 100 x 62

General data

Endurance

- Mechanical
- Electrical
 - AC-1 at I_e
 - AC-3 at I_e

Operating cycles

3 million

Operating cycles

0.1 million

Operating cycles

0.4 million

Rated insulation voltage U_i (pollution degree 3)

V

400

Rated impulse withstand voltage U_{imp}

kV

4

Protective separation

Between the coil and the contacts acc. to EN 60947-1, Appendix N

V AC

Up to 300

Permissible ambient temperature

- During operation¹⁾
- During storage

°C

-25 ... + 55

°C

-50 ... + 80

Degree of protection acc. to IEC 60947-1 and EN 60529

IP00, drive system IP20

Control circuit

Power consumption of the solenoid coils (when coil is cold and $1.0 \times U_s$)

- AC operation, 45 ... 450 Hz
- P.f.
- DC operation

VA

4.4

0.9 (hum-free)

W

4

Coil operating range

$0.85 \dots 1.1 \times U_s$

Short-circuit protection

Fuse links operational class gG

Type LV HRC 3NA, DIAZED 5SB, NEOZED 5SE

acc. to EN 60947-4-1

- Type of coordination "1"
- Type of coordination "2"

Miniature circuit breakers, C characteristic

A

25

A

10

A

10

AC capacity

Utilization category AC-1, switching resistive loads

Rated operational current I_e up to 400 V at 55 °C¹⁾

A

20 for screw terminals, 16 for flat connector

Rated power U_e for AC loads with p.f. = 1, 230/220 V

- For screw terminals
- For flat connector

kW

7.5 (13 at 400 V)

kW

6 (10 at 400 V)

Minimum conductor cross-section for load with I_e

mm²

2.5

Utilization categories AC-2 and AC-3

Operational current for AC-3 at 400 V rated value

A

8.4

Rated power for slipping or squirrel-cage motors with 50 and 60 Hz and at 400 V

kW

4

Utilization category AC-5a (permissible nominal impedance: $\geq 0.5 \Omega$)



Switching of gas discharge lamps

Per main current path at 230 V, 50 Hz

Rated power/rated operational current per lamp

• Uncorrected	18 W	0.37 A	43
	36 W	0.43 A	37
	58 W	0.67 A	24
• DUO switching	18 W	2 x 0.11 A	2 x 81
	36 W	2 x 0.21 A	2 x 42
	58 W	2 x 0.32 A	2 x 28

¹⁾ If the three main current paths carry a load of 20 A, the following applies if $I > 10$ A in the fourth conducting path: Permissible ambient temperature 40 °C.

Type	3TG10		
AC capacity			
Switching gas discharge lamps with correction, ECG			
Per main current path 230 V, 50 Hz Rated power per lamp/capacitance/ rated operational current per lamp			
• Shunt compensation	L18 W L36 W L58 W	4.5 µF 4.5 µF 7 µF	0.11 A 0.21 A 0.32 A
			Unit(s) 15 Unit(s) 15 Unit(s) 10
• With ECG (single lamp)	L18 W L36 W L58 W	6.8 µF 6.8 µF 10 µF	0.10 A 0.18 A 0.27 A
			Unit(s) 39 Unit(s) 39 Unit(s) 26
• With ECG (two lamps)	L18 W L36 W L58 W	10 µF 10 µF 22 µF	0.18 A 0.35 A 0.52 A
			Unit(s) 2 x 26 Unit(s) 2 x 26 Unit(s) 2 x 12
Utilization category AC-5b, switching incandescent lamps			kW 1.6
Per main current path at 230 V, 50 Hz			
Load rating with DC			
Utilization category DC-1, switching resistive load ($L/R \leq 15$ ms)			
• Rated operational currents I_e			
- 1 conducting path		Up to 24 V A 60 V A 110 V A 220 V/240 V A	16 6 2 0.8
- 2 conducting paths in series		Up to 24 V A 60 V A 110 V A 220 V/240 V A	16 16 6 1.6
- 3 conducting paths in series		Up to 24 V A 60 V A 110 V A 220 V/240 V A	18 18 16 6
- 4 conducting paths in series		Up to 24 V A 60 V A 110 V A 220 V/240 V A	20 20 20 20
Utilization category DC-3 and DC-5			
Shunt-wound and series-wound motors ($L/R \leq 15$ ms)			
• Rated operational currents I_e			
- 1 conducting path		Up to 24 V A 60 V A 110 V A 220 V/240 V A	10 0.5 0.15 0
- 2 conducting paths in series		Up to 24 V A 60 V A 110 V A 220 V/240 V A	16 5 0.35 0
- 3 conducting paths in series		Up to 24 V A 60 V A 110 V A 220 V/240 V A	16 16 10 1.75
- 4 conducting paths in series		Up to 24 V A 60 V A 110 V A 220 V/240 V A	18 16 10 2
Conductor cross-sections			
Terminal screws			 Screw terminals M3 2 x (0.75 ... 2.5) 2 x (1 ... 2.5), 1 x 4 3.0 mm x 0.5 mm (3RA29 08-1A) or Pozidriv 2
• Finely stranded with end sleeve (DIN 46228 Form A/D/C)			
• Solid			
Permissible opening tool (screwdriver)			
• Finely stranded 6.3 mm plug-in sleeve acc. to DIN 46245/46247			 Flat connectors 0.5 ... 1 1 ... 2.5
- 6.3 ... 1			
- 6.3 ... 2.5			
Ⓢ and Ⓣ rating (screw terminals)			
Rated insulation voltage	AC	V	600
Uninterrupted current	Open and enclosed	A	20
Maximum horsepower ratings (Ⓢ and Ⓣ approved values), rated power for induction motors with 60 Hz			Single-phase/Three-phase
	At 115 V	hp	0.5/ --
	200 V	hp	1/ 3
	230 V	hp	1.5/ 3
	460 ... 600 V	hp	0/ 5

Power Relays/Miniature Contactors

3TG10 contactors 4-pole, 4 kW

Selection and ordering data

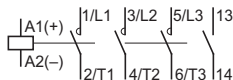
For screw and snap-on mounting onto TH 35 standard mounting rail

Rated data				Main contacts	Rated control supply voltage U_s	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Utilization category											
AC-1											
Switching of resistive loads at 55 °C											
AC-2 and AC-3											
Operational current I_e up to 400 V	Power of AC loads at 50 Hz and 400 V	Operational current I_e up to 400 V ¹⁾	Power of AC loads at 50 Hz and 400 V	Version							
A	kW	A	kW	NO NC V							

4-pole · Hum-free · With screw terminals

Terminal designations according to EN 50012

1 NO, Ident. No. **10**



AC operation, 45 ... 450 Hz

20 13 8.4 4

4 -- 24 AC

110 AC

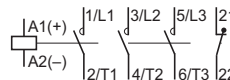
230 AC

3 1 24 AC

110 AC

230 AC

1 NC, Ident. No. **01E**



Screw terminals

▶ **3TG10 10-0AC2**

▶ **3TG10 10-0AG2**

▶ **3TG10 10-0AL2**

▶ **3TG10 01-0AC2**

▶ **3TG10 01-0AG2**

▶ **3TG10 01-0AL2**

1 1 unit 101

1 1 unit 101

1 1 unit 101

1 1 unit 101

1 1 unit 101

1 1 unit 101



3TG10 ...-0...

DC operation

20 13 8.4 4

4 -- 24 DC

3 1 24 DC

▶ **3TG10 10-0BB4**

▶ **3TG10 01-0BB4**

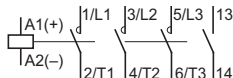
1 1 unit 101

1 1 unit 101

4-pole · Hum-free · With flat connectors 6.3 mm x 0.8 mm

Terminal designations according to EN 50012

1 NO, Ident. No. **10**



AC operation, 45 ... 450 Hz

16 10 8.4 4

4 -- 24 AC

110 AC

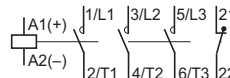
230 AC

3 1 24 AC

110 AC

230 AC

1 NC, Ident. No. **01E**



Flat connectors

▶ **3TG10 10-1AC2**

▶ **3TG10 10-1AG2**

▶ **3TG10 10-1AL2**

▶ **3TG10 01-1AC2**

▶ **3TG10 01-1AG2**

▶ **3TG10 01-1AL2**

1 1 unit 101

1 1 unit 101

1 1 unit 101

1 1 unit 101

1 1 unit 101

1 1 unit 101



3TG10 ...-1...

DC operation

16 10 8.4 4

4 -- 24 DC

3 1 24 DC

C ▶ **3TG10 10-1BB4**

D ▶ **3TG10 01-1BB4**

1 1 unit 101

1 1 unit 101

Accessories

Max. rated operational currents I_e /AC-1 (at 55 °C) of the contactors	Max. conductor cross-sections	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	mm ²						

Links for paralleling (star jumpers)

3-pole, without connection terminals^{1) 2)}

16 star jumpers can be reduced by one pole

--

▶ **3RT19 16-4BA31**

1 1 unit 101

3-pole, with connection terminals^{1) 3)}

40

25

▶ **3RT19 16-4BB31**

1 1 unit 101

4-pole, with connection terminals^{1) 4)}

40

25

C ▶ **3RT19 16-4BB41**

1 1 unit 101

¹⁾ The links for paralleling can be reduced by one pole. The rated operational currents apply to each pole. The links for paralleling are insulated.

²⁾ Replacement for 3TX4 490-2C.

³⁾ Replacement for 3TX4 490-2A.

⁴⁾ Replacement for 3TX4 490-2B.