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GX SERIES

- IEC conventional free air thermal current lth 16A...40A ratings
- Square-shaped contact body
- IEC IP20 degree of protection of contacts
- IEC IP65 degree of protection on front, standard supplied.



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GN SERIES

- IEC conventional free air thermal current lth 16A...125A ratings
- Round-shaped contact body
- IEC IP00 degree of protection of contacts
- IEC IP40 degree of protection on front, standard supplied.

10 Rotary cam switches

Special circuit scheme form

		1	4	5	8	9	12	13	16	17	20	21	24	25	28	29	32	33	36	37	40	41	44	45	48
		2	3	6	7	10	11	14	15	18	19	22	23	26	27	30	31	34	35	38	39	42	43	46	47

Plate indication	Pos.																								
	7																								
C	8																								
	9																								
	10																								
D	11																								
	12																								
	1																								
A	2																								
	3																								
	4																								
B	5																								
	6																								

Front plate

1	X	X	X	X	
2	X	X	X		X
	Overlapping contacts	Closed contact in 2 or more positions	Open/passing contact	Closed contact	Spring return

BODY SHAPE: Square - GX ❶ Round - GN Amp rating

VERSION: Front mount Rear mount Enclosed Other

FINISH: Standard ❷ Red/yellow padlockable Special

FIXING: 2 screw 4 screw Snap

Q.ty:..... Company name and contact details:

❶ Maximum 40A ratings for GX series.
 ❷ Standard supplied finish is grey front plate while 0-12 indication and the handle are black; any other is considered special.
 Also consult technical instructions I230 on the website www.LovatoElectric.com

**U version
front mount.
Changeover switches
with 0 position.
Changeover switches
without 0 position**



Order code	IEC current AC1 [A]	Front plate size [mm]	Qty per pkg n°	Weight [kg]
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CHANGEOVER SWITCHES WITH 0.
One-pole – 1 wafer – scheme 51.

GX16 51 U	16	□ 48	1	0.098
GX20 51 U	20	□ 48	1	0.098
GX32 51 U	32	□ 65	1	0.210
GX40 51 U	40	□ 65	1	0.212

Two-pole – 2 wafers – scheme 52.

GX16 52 U	16	□ 48	1	0.120
GX20 52 U	20	□ 48	1	0.120
GX32 52 U	32	□ 65	1	0.270
GX40 52 U	40	□ 65	1	0.272

Three-pole – 3 wafers – scheme 53.

GX16 53 U	16	□ 48	1	0.148
GX20 53 U	20	□ 48	1	0.148
GX32 53 U	32	□ 65	1	0.327
GX40 53 U	40	□ 65	1	0.326

Four-pole – 4 wafers – scheme 75.

GX16 75 U	16	□ 48	1	0.164
GX20 75 U	20	□ 48	1	0.172
GX32 75 U	32	□ 65	1	0.378
GX40 75 U	40	□ 65	1	0.380

CHANGEOVER SWITCHES WITHOUT 0.

One-pole – 1 wafer – scheme 54.

GX16 54 U	16	□ 48	1	0.098
GX20 54 U	20	□ 48	1	0.098
GX32 54 U	32	□ 65	1	0.212

Two-pole – 2 wafers – scheme 55.

GX16 55 U	16	□ 48	1	0.124
GX20 55 U	20	□ 48	1	0.124
GX32 55 U	32	□ 65	1	0.266

Three-pole – 3 wafers – scheme 56.

GX16 56 U	16	□ 48	1	0.148
GX20 56 U	20	□ 48	1	0.148
GX32 56 U	32	□ 65	1	0.318

Four-pole – 4 wafers – scheme 69.

GX16 69 U	16	□ 48	1	0.164
GX20 69 U	20	□ 48	1	0.172
GX32 69 U	32	□ 65	1	0.380

Front plate size:
48x48mm = 1.9x1.9"
65x65mm = 2.6x2.6"
90x90mm = 3.5x3.5"

General characteristics

- IEC 16...40A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual-breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IEC IP65 front degree of protection; IEC IP20 protection of contacts
- Legend marking is standard supplied as illustrated in the order code table; any other on request.

Selection guide

See page 10-24.

Optional

Enlarged front plate for GX16-GX20 (65x65mm instead of standard 48x48):

Add "H" after the switch rating in the order code
E.g. GX16H 52 U.

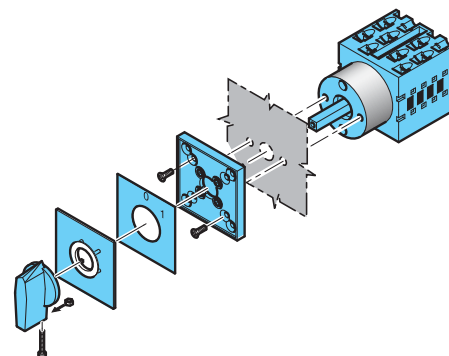
Enlarged front plate for GX32-GX40 (90x90mm instead of standard 65x65):

Add "H" after the switch rating in the order code
E.g. GX32H 52 U.

Special versions

In addition to standard types, particular versions are available with special operating circuit schemes.
See page 10-2.

Example of U version switch mounting



Certifications and compliance

Certifications obtained: EAC; UL Listed, for USA and Canada (File E155982) as Manual Motor Controllers.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3, IEC/EN 60947-5-1, IEC/EN 61058-1, UL508, CSA C22.2 n°14.

Type	UL/CSA general use [A]	UL/CSA horsepower ratings						Max IEC AC23 power [kW] at 400V
		1 phase		3 phases				
		120V	230V	200V	230V	480V	600V	
GX16	12	3/4	1	1 1/2	3	5	5	6.5
GX20	15	3/4	1 1/2	1 1/2	3	5	5	7.5
GX32	32	1 1/2	3	3	7 1/2	15	15	15
GX40	40	2	5	5	10	15	15	18.5

**U version
front mount.
Voltmeter switches.
Ammeter switches**



Order code	IEC current AC1 [A]	Front plate size [mm]	Qty per pkg n°	Weight [kg]
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VOLTMETER SWITCHES.

Phase-Neutral L1-N/L2-N/L3-N – 2 wafers – scheme 68.

GX16 68 U		16	□ 48	1	0.120
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Phase-Phase L1-L2/L2-L3/L3-L1 – 2 wafers – scheme 67.

GX16 67 U		16	□ 48	1	0.124
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For 3 phase to phase voltage and 3 phase voltage readings
3 wafers – scheme 66.

GX16 66 U		16	□ 48	1	0.152
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For 1 phase voltage and 3 phase to phase voltage readings
3 wafers – scheme 60.

GX16 60 U		16	□ 48	1	0.143
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AMMETER SWITCHES.

Direct L1-L2-L3 current readings – 5 wafers – scheme 97.

GX16 97 U		16	□ 48	1	0.186
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For L1-L2-L3 readings via 3 CTs – 4 wafers – scheme 98.

GX16 98 U		16	□ 48	1	0.144
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Type	UL/CSA general use [A]	UL/CSA horsepower ratings						Max IEC AC23 power [kW] at 400V
		1 phase		3 phases				
		120V	230V	200V	230V	480V	600V	
GX16	12	3/4	1	1 1/2	3	5	5	6.5
GX20	15	3/4	1 1/2	1 1/2	3	5	5	7.5
GX32	32	1 1/2	3	3	7 1/2	15	15	15
GX40	40	2	5	5	10	15	15	18.5

General characteristics

- IEC 16A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual-breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IEC IP65 front degree of protection; IEC IP20 degree of protection of contacts
- Legend marking is standard supplied as illustrated in the order code table; any other on request.

Selection

See page 10-24.

Optional

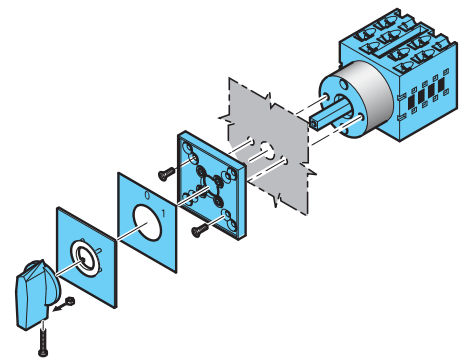
Enlarged front plate for GX16-GX20 (65x65mm instead of standard 48x48); Add "H" after the switch rating in the order code E.g. GX16H 11 U.

Enlarged front plate for GX32-GX40 (90x90mm instead of standard 65x65); Add "H" after the switch rating in the order code E.g. GX32H 11 U.

Special versions

In addition to standard types, particular versions are available with special operating circuit schemes. See page 10-2.

Example of U version switch mounting



Certifications and compliance

Certifications obtained: EAC; UL Listed, for USA and Canada (File E155982) as Manual Motor Controllers. Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3, IEC/EN 60947-5-1, IEC/EN 61058-1, UL508, CSA C22.2 n°14.

Valid for motor, voltmeter and ammeter switches:

- Front plate size:
 48x48mm = 1.9x1.9"
 65x65mm = 2.6x2.6"
 90x90mm = 3.5x3.5".

U47 version
front snap on mount
with handle operation,
for Ø22mm/Ø0.88" fixing.
ON/OFF switches



U29D version
front snap on mount
with key operation,
for Ø22mm/Ø0.88" fixing.
ON/OFF switches



Order code	IEC current AC1 [A]	Front plate size [mm]	Qty per pkg n°	Weight [kg]
ON/OFF SWITCHES.				
One-pole – 1 wafer – scheme 90.				
GX20 90 U47	20	48	1	0.100
Two-pole – 1 wafer – scheme 91.				
GX20 91 U47	20	48	1	0.100
Three-pole – 2 wafers – scheme 10.				
GX20 10 U47	20	48	1	0.120
Four-pole – 2 wafers – scheme 92.				
GX20 92 U47	20	48	1	0.123

Order code	IEC current AC1 [A]	Front plate size [mm]	Qty per pkg n°	Weight [kg]
ON/OFF SWITCHES.				
One-pole – 1 wafer – scheme 90.				
GX20 90 U29D	20	48	1	0.122
Two-pole – 1 wafer – scheme 91.				
GX20 91 U29D	20	48	1	0.122
Three-pole – 2 wafers – scheme 10.				
GX20 10 U29D	20	48	1	0.140
Four-pole – 2 wafers – scheme 92.				
GX20 92 U29D	20	48	1	0.146

General characteristics

- IEC 20A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual-breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IEC IP65 front degree of protection; IEC IP20 protection of contacts.

Selection

See page 10-24.

Optional

Enlarged front plate for GX20 (65x65mm instead of standard 48x48):

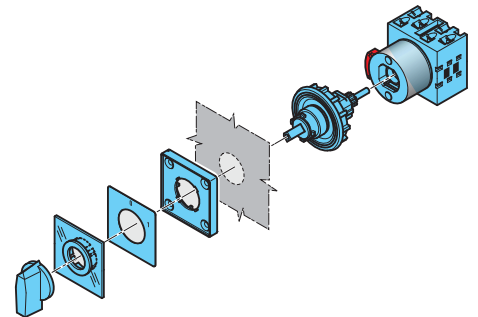
Add "H" after the switch rating in the order code
E.g. GX20H 10 U47.

Special versions

In addition to standard types, particular versions are available with special operating circuit schemes.

See page 10-2.

Example of U47 switch mounting



Certifications and compliance

Certifications obtained: EAC; UL Listed, for USA and Canada (File E155982) as Manual Motor Controllers.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3, IEC/EN 60947-5-1, IEC/EN 61058-1, UL508, CSA C22.2 n°14.

Type	UL/CSA general use [A]	UL/CSA horsepower ratings						Max IEC AC23 power [kW] at 400V
		1 phase		3 phases				
		120V	230V	200V	230V	480V	600V	
GX20	15	3/4	1 1/2	1 1/2	3	5	5	7.5

10 Rotary cam switches

GX series

P version in enclosure with rotating handle. ON/OFF switches. Changeover switches



Order code	IEC current AC1	Housing size	Qty per pkg	Wt
	[A]	[mm]	n°	[kg]

ON/OFF SWITCHES.
Three poles - scheme 10.

GX16 10 P	16	90x90	1	0.330
GX20 10 P	20	90x90	1	0.330
GX32 10 P	32	110x110	1	0.560
GX40 10 P	40	110x110	1	0.560



ON/OFF SWITCHES.
Four poles - scheme 92.

GX16 92 P	16	90x90	1	0.340
GX20 92 P	20	90x90	1	0.340
GX32 92 P	32	110x110	1	0.575
GX40 92 P	40	110x110	1	0.575



CHANGEOVER SWITCHES.
Three poles - scheme 53.

GX16 53 P	16	90x90	1	0.415
GX20 53 P	20	90x90	1	0.415
GX32 53 P	32	110x110	1	0.710
GX40 53 P	40	110x110	1	0.710



Four poles - scheme 75.

GX16 75 P	16	90x90	1	0.430
GX20 75 P	20	90x90	1	0.430
GX32 75 P	32	110x110	1	0.760
GX40 75 P	40	110x110	1	0.760



General characteristics

- IEC 16...40A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual-breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IP65 degree of protection
- Top and bottom entry: 4 PG16 threaded knockouts for 90x90mm types and 4 PG21 for 110x110mm
- Legend marking is standard supplied as illustrated in the order code table; any other on request.

Selection guide

See page 10-24.

Special versions

In addition to standard types, particular versions are available with special operating circuit schemes. See page 10-2.

Certifications and compliance

Certifications obtained: EAC.
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3, IEC/EN 60947-5-1, IEC/EN 61058-1.

Valid for P - P25 versions:

Housing size:
90x90mm = 3.5x3.5"
110x110mm = 4.3x4.3".

P version in enclosure with rotating handle. Motor switches



Order code	Ith AC1 IEC	IEC power AC23A	Housing size	Qty per pkg	Wt.
	[A]	[kW]	[mm]	n°	[kg]

MOTOR SWITCHES.
Three-pole reversing switches - scheme 11.

GX16 11 P	16	6.5	90x90	1	0.405
GX20 11 P	20	7.5	90x90	1	0.425
GX32 11 P	32	15	110x110	1	0.695
GX40 11 P	40	15	110x110	1	0.700



P25 version in enclosure with padlockable rotating handle. ON/OFF switches



Order code	IEC current AC1	Housing size	Qty per pkg	Wt
	[A]	[mm]	n°	[kg]

ON/OFF SWITCHES.
Three poles - scheme 10.

GX16 10 P25	16	90x90	1	0.340
GX20 10 P25	20	90x90	1	0.345
GX32 10 P25	32	110x110	1	0.586



Four poles - scheme 92.

GX16 92 P25	16	90x90	1	0.350
GX20 92 P25	20	90x90	1	0.350
GX32 92 P25	32	110x110	1	0.605



For indication and reference purposes only - No UL/CSA approval

Type	UL/CSA general use [A]	UL/CSA horsepower ratings						Max IEC AC23 power [kW] at 400V
		1 phase		3 phases				
		120V	230V	200V	230V	480V	600V	
GX16	12	3/4	1	1 1/2	3	5	5	6.5
GX20	15	3/4	1 1/2	1 1/2	3	5	5	7.5
GX32	32	1 1/2	3	3	7 1/2	15	15	15
GX40	40	2	5	5	10	15	15	18.5

10 Rotary cam switches

GN series

U version front mount. ON/OFF switches



Order code	IEC current AC1	Front plate size	Qty per pkg	Wt
	[A]	[mm]	n°	[kg]

ON/OFF SWITCHES.

One pole - 1 wafer - scheme 90.

7 GN12 90 U	16	□ 48	1	0.075
7 GN20 90 U	20	□ 48	1	0.077
7 GN25 90 U	25	□ 48	1	0.087
7 GN32 90 U	32	□ 65	1	0.173
7 GN40 90 U	40	□ 65	1	0.173
7 GN63 90 U	63	□ 65	1	0.200



2 poles - 1 wafer - scheme 91.

7 GN12 91 U	16	□ 48	1	0.079
7 GN20 91 U	20	□ 48	1	0.082
7 GN25 91 U	25	□ 48	1	0.094
7 GN32 91 U	32	□ 65	1	0.186
7 GN40 91 U	40	□ 65	1	0.186
7 GN63 91 U	63	□ 65	1	0.218



3 poles - 2 wafers - scheme 10.

7 GN12 10 U	16	□ 48	1	0.088
7 GN20 10 U	20	□ 48	1	0.095
7 GN25 10 U	25	□ 48	1	0.116
7 GN32 10 U	32	□ 65	1	0.228
7 GN40 10 U	40	□ 65	1	0.240
7 GN63 10 U	63	□ 65	1	0.282
7 GN125 10 U	125	□ 90	1	0.706



4 poles - 2 wafers - scheme 92.

7 GN12 92 U	16	□ 48	1	0.088
7 GN20 92 U	20	□ 48	1	0.098
7 GN25 92 U	25	□ 48	1	0.122
7 GN32 92 U	32	□ 65	1	0.232
7 GN40 92 U	40	□ 65	1	0.251
7 GN63 92 U	63	□ 65	1	0.302
7 GN125 92 U	125	□ 90	1	0.782



Front plate size:
48x48mm = 1.9x1.9"
65x65mm = 2.6x2.6"
90x90mm = 3.5x3.5"

Type	UL/CSA general use [A]	UL/CSA horsepower ratings						Max IEC AC23 power [kW] at 400V
		1 phase		3 phases				
		120V	230V	200V	230V	480V	600V	
GN12	15	3/4	1	1 1/2	3	—	—	5.5
GN20	20	3/4	2	1 1/2	3	—	—	7.5
GN25	30	1 1/2	3	3	5	10	15	11
GN32	40	2	5	5	10	15	15	15
GN40	50	2	5	5	10	20	20	18.5
GN63	60	5	10	7 1/2	15	25	25	30
GN125	130	7 1/2	15	15	25	50	40	45

General characteristics

- IEC 16...125A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IEC IP40 front degree of protection (for IP65 see Optional-front plate); IEC IP00 of contacts
- Legend marking is standard supplied as illustrated in the order code table; any other on request.

Selection guide

See page 10-24.

Optional

IEC IP65 front plate

Add "51" at the end of the order code.

E.g. 7 GN12 92 U 51.

Enlarged plate for GN12-20-25 (65x65mm instead of 48x48)

Add the letter "H" after the switch size of the order code.

E.g. 7 GN12H 10 U.

Enlarged plate for GN32-40-63 (90x90mm instead of 65x65)

Add the letter "H" after the switch size of the order code.

E.g. 7 GN32H 10 U.

Special versions

In addition to standard types, particular versions are available with special operating circuit schemes.

See page 10-2.

Certifications and compliance

Certifications obtained: EAC; CSA certified, for Canada and

USA (File 207767) and UL Listed, for USA

(File E155982), as Manual Motor Controllers.

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3,

IEC/EN 60947-5-1, UL508, CSA C22.2 n°14.

U version front mount. Motor switches



Order code	Ith AC1 IEC	IEC power AC23A	Front plate size	Qty per pkg	Wt
	[A]	[kW]	[mm]	n°	[kg]

MOTOR SWITCHES.

Three-pole reversing switches - 3 wafers - scheme 11.

7 GN12 11 U	16	6	□ 48	1	0.105
7 GN20 11 U	20	7.5	□ 48	1	0.111
7 GN25 11 U	25	11	□ 48	1	0.145
7 GN32 11 U	32	15	□ 65	1	0.278
7 GN40 11 U	40	18.5	□ 65	1	0.294
7 GN63 11 U	63	30	□ 65	1	0.366
7 GN125 11 U	125	45	□ 90	1	0.976



Pole changing switches - 4 wafers - scheme 13.

7 GN12 13 U	16	6	□ 48	1	0.126
7 GN20 13 U	20	7.5	□ 48	1	0.134
7 GN25 13 U	25	11	□ 48	1	0.181
7 GN32 13 U	32	15	□ 65	1	0.342
7 GN40 13 U	40	18.5	□ 65	1	0.366
7 GN63 13 U	63	30	□ 65	1	0.465
7 GN125 13 U	125	45	□ 90	1	1.301



Star-delta switches - 4 wafers - scheme 12.

7 GN12 12 U	16	6	□ 48	1	0.124
7 GN20 12 U	20	7.5	□ 48	1	0.134
7 GN25 12 U	25	11	□ 48	1	0.175
7 GN32 12 U	32	15	□ 65	1	0.343
7 GN40 12 U	40	18.5	□ 65	1	0.366
7 GN63 12 U	63	30	□ 65	1	0.465
7 GN125 12 U	125	45	□ 90	1	1.303



Three-pole reversing switches with spring return to 0 - 3 wafers - scheme 26.

7 GN12 26 U	16	6	□ 48	1	0.106
7 GN20 26 U	20	7.5	□ 48	1	0.111
7 GN25 26 U	25	11	□ 48	1	0.144



Pole changing switches with reversing (Dahlander) - 6 wafers - scheme 20.

7 GN12 20 U	16	6	□ 48	1	0.161
7 GN20 20 U	20	7.5	□ 48	1	0.165
7 GN25 20 U	25	11	□ 48	1	0.246



Front plate size:
48x48mm = 1.9x1.9"
65x65mm = 2.6x2.6"
90x90mm = 3.5x3.5"

General characteristics

- IEC 16...125A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IEC IP40 front degree of protection (for IP65 see Optional-front plate); IEC IP00 of contacts
- Legend marking is standard supplied as illustrated in the order code table; any other on request.

Selection guide

See page 10-24.

Optional

IEC IP65 front plate

Add "51" at the end of the order code.

E.g. 7 GN12 13 U 51.

Enlarged plate for GN12-20-25 (65x65mm instead of 48x48)

Add the letter "H" after the switch size of the order code.

E.g. 7 GN12H 11 U.

Enlarged plate for GN32-40-63 (90x90mm instead of 65x65)

Add the letter "H" after the switch size of the order code.

E.g. 7 GN32H 11 U.

Special versions

In addition to standard types, particular versions are available

with special operating circuit schemes.

See page 10-2.

Certifications and compliance

Certifications obtained: EAC; CSA certified, for Canada and

USA (File 207767) and UL Listed, for USA

(File E155982), as Manual Motor Controllers.

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3,

IEC/EN 60947-5-1, UL508, CSA C22.2 n°14.

Type	UL/CSA general use [A]	UL/CSA horsepower ratings						Max IEC AC23 power [kW] at 400V
		1 phase		3 phases				
		120V	230V	200V	230V	480V	600V	
GN12	15	3/4	1	1 1/2	3	—	—	5.5
GN20	20	3/4	2	1 1/2	3	—	—	7.5
GN25	30	1 1/2	3	3	5	10	15	11
GN32	40	2	5	5	10	15	15	15
GN40	50	2	5	5	10	20	20	18.5
GN63	60	5	10	7 1/2	15	25	25	30
GN125	130	7 1/2	15	15	25	50	40	45

U11 version
front ring mount
with handle operation
for Ø22mm/Ø0.88" fixing.
ON/OFF switches



Order code	IEC current AC1 [A]	Front plate size [mm]	Qty per pkg n°	Wt [kg]
ON/OFF SWITCHES. One-pole - 1 wafer - scheme 90.				
7 GN12 90 U11	16	—	1	0.078
7 GN20 90 U11	20	—	1	0.082
Two-pole - 1 wafer - scheme 91.				
7 GN12 91 U11	16	—	1	0.080
7 GN20 91 U11	20	—	1	0.084
Three-pole - 2 wafers - scheme 10.				
7 GN12 10 U11	16	—	1	0.092
7 GN20 10 U11	20	—	1	0.095
Four-pole - 2 wafers - scheme 92.				
7 GN12 92 U11	16	—	1	0.094
7 GN20 92 U11	20	—	1	0.100

U12 version
front ring mount
with key operation
for Ø22mm/Ø0.88" fixing.
ON/OFF switches



Order code	IEC current AC1 [A]	Front plate size [mm]	Qty per pkg n°	Wt [kg]
ON/OFF SWITCHES. One-pole - 1 wafer - scheme 90.				
7 GN12 90 U12	16	—	1	0.100
7 GN20 90 U12	20	—	1	0.104
Two-pole - 1 wafer scheme 91.				
7 GN12 91 U12	16	—	1	0.108
7 GN20 91 U12	20	—	1	0.112
Three-pole - 2 wafers - scheme 10.				
7 GN12 10 U12	16	—	1	0.129
7 GN20 10 U12	20	—	1	0.135
Four-pole - 2 wafers - scheme 92.				
7 GN12 92 U12	16	—	1	0.132
7 GN20 92 U12	20	—	1	0.139

General characteristics

- IEC 16...125A conventional free air thermal current Ith ratings
- Conductivity: 10mA 5V
- Extended mechanical and electrical life
- Rotation angles: 30°, 45°, 60° and 90°
- Silver-alloy dual breaking contacts
- Direct (positive) opening action ⊖; safety function according to IEC/EN 60947-5-1
- IEC IP40; IEC IP00 of contacts for U11 and U12
- Legend marking for U11 and U12 versions is only for reference.

Selection guide

See page 10-24.

Special versions

In addition to standard types, particular versions are available with special operating circuit schemes. See page 10-2.

Certifications and compliance

Certifications obtained: EAC; CSA certified, for Canada and USA (File 207767) and UL Listed, for USA (File E155982), as Manual Motor Controllers. Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3, IEC/EN 60947-5-1, UL508, CSA C22.2 n°14.

Accessories for GN series rotary cam switches



7 A019... -
7 A119...



7 A169...



7 A014 -
7 AR114 -
7 A114 -
7 AR214



7 AR124 -
7 A124 -
7 AR224



7 A180 - 7 A181



7 A441 - 7 A442 - 7 A443



GX M1 - GX M2

Order code	Description	Qty per pkg	Wt
		n°	[kg]

IEC IP20 finger protection shroud for supply terminals.
For 2 wafers complete with screws and bracket.

7 A0191	For GN12-GN20	1	0.017
7 A0192	For GN25	1	0.021
7 A119U	For GN32 U version	1	0.033
7 A119O	For GN32 O version	1	0.101

2-piece kit, snap-on fixing for 1 wafer.

7 A1691	For GN40	1	0.005
7 A1692	For GN63	1	0.006
7 A1693	For GN125	1	0.020
7 A1694	For GN12-GN20	1	0.005
7 A1695	For GN25	1	0.005

Black operating handle①.

7 A014Ⓜ	For 48x48mm front plate □ 6mm/0.24" for GN12-GN20-GN25	1	0.005
7 AR114	For 65x65mm front plate □ 6mm/0.24" for GN12H-GN20H-GN25H	1	0.010
7 A114Ⓜ	For 65x65mm front plate □ 6mm/0.24" for GN32-GN40-GN63	1	0.010
7 AR214Ⓜ	For 90x90mm front plate □ 7mm/0.28" for GN125 and GN32H-GN40H-GN63H	1	0.013

Black operating lever①.

7 AR214Ⓜ	For 65x65mm front plate □ 6mm/0.24" for GN12H-GN20H-GN25H	1	0.019
7 A124	For 65x65mm front plate □ 7mm/0.28" for GN32-GN40-GN63	1	0.020
7 AR224Ⓜ	For 90x90mm front plate □ 8mm/0.31" for GN125 and GN32H-GN40H-GN63H	1	0.038

35mm DIN rail (IEC/EN 60715) base mounting piece for U version.

7 A180	For GN12...GN25	1	0.011
7 A181	For GN32...GN63	1	0.018

Flexible rubber shroud②.

7 A441	Ø 58mm/2.3", 70mm/2.8" long for GN12 to GN25 with 2 elements	1	0.045
7 A442	Ø 58mm/2.3", 92mm/3.6" long for GN12 to GN25 with 4 elements	1	0.065
7 A443	Ø 58mm/2.3", 125mm/4.9" long for GN12 to GN25 with 6 elements	1	0.063

IP40 face plate①.

GX M1	48x48mm blank face plate	1	0.018
GX M2	65x65mm blank face plate	1	0.023

Front plate size:
48x48mm = 1.9x1.9"
65x65mm = 2.6x2.6"
90x90mm = 3.5x3.5"

① Suitable for GN... types with IEC IP40 (standard supply). For GN...51 types, consult Technical support for information; see contact details on inside front cover.

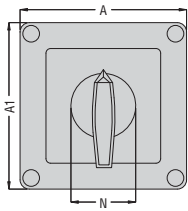
② Raises contact degree of protection from IEC IP00...IP20.

③ Also suitable for GX series.

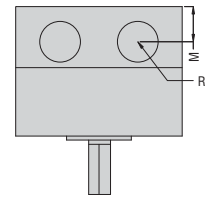
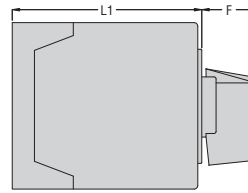
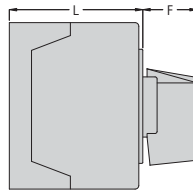
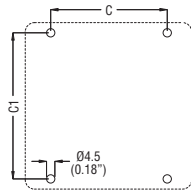
10 Rotary cam switches

Dimensions [mm (in)]

Mounting in enclosure



Drilling for enclosure fixing

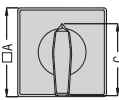


Type	Enclosure size	N° of wafers		Dimensions										Protection degree	Cable glands R			
		L	L1	A	A1	C	C1	F	M	N	L	L1						
GX16	90x90	1-2	3-5	90	90	79	63	25	19	30	71.3	98.3						
GX20	(3.54"x3.54")	1-2	3-5	(3.54")	(3.54")	(3.11")	(2.48")	(0.98")	(0.74")	(1.18")	(2.80")	(3.87")						
GX32	110x110	1-2	3-4	110	110	98.4	83	32	21	39.5	85.5	119.5						
GX40	(4.33"x4.33")	1-2	3-4	(4.33")	(4.33")	(3.87")	(3.26")	(1.25")	(0.82")	(1.55")	(3.36")	(4.70")						

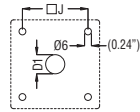
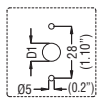
● 28 (1.1") for ...P25 type.
● 38.5 (1.52") for ...P25 type.

GN SERIES

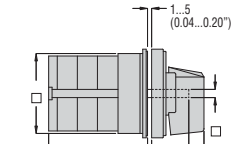
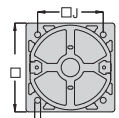
Front mount



Wafer and front plate fixing on the door



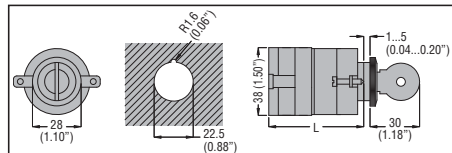
2-screw drilling for types up to GN63
4-screw drilling for GN125 and "4V" suffix types only



Type	Dimensions										L					
	□ A	C	D1	D3	E	F	□ G	□ J	□ M	□ N	1 wafer	2 wafers	3 wafers	4 wafers	5 wafers	6 wafers
GN12	48 (1.89")	39.5 (1.55")	12 (0.47")	4.3 (0.17")	26.5 (1.04")	23.5 (0.92")	39 (1.53")	36 (1.42")	48 (1.89")	6 (0.24")	36.1 (1.42")	45.8 (1.80")	55.5 (2.18")	65.2 (2.57")	74.9 (2.95")	84.6 (3.33")
GN20	48 (1.89")	39.5 (1.55")	12 (0.47")	4.3 (0.17")	26.5 (1.04")	23.5 (0.92")	39 (1.53")	36 (1.42")	48 (1.89")	6 (0.24")	36.1 (1.42")	45.8 (1.80")	55.5 (2.18")	65.2 (2.57")	74.9 (2.95")	84.6 (3.33")
GN25	48 (1.89")	39.5 (1.55")	12 (0.47")	4.3 (0.17")	26.5 (1.04")	23.5 (0.92")	39 (1.53")	36 (1.42")	48 (1.89")	6 (0.24")	40.5 (1.59")	54.1 (2.13")	67.7 (2.66")	81.3 (3.20")	94.9 (3.74")	108.5 (4.27")
GN32	65 (2.56")	53 (2.09")	14 (0.55")	4.3 (0.17")	34.5 (1.36")	26 (1.02")	58.5 (2.30")	48 (1.89")	65 (2.56")	7 (0.27")	46.5 (1.83")	61.6 (2.44")	76.7 (3.02")	91.8 (3.61")	106.9 (4.21")	122 (4.80")
GN40	65 (2.56")	53 (2.09")	14 (0.55")	4.3 (0.17")	34.5 (1.36")	26 (1.02")	58.5 (2.30")	48 (1.89")	65 (2.56")	7 (0.27")	46.5 (1.83")	61.6 (2.44")	76.7 (3.02")	91.8 (3.61")	106.9 (4.21")	122 (4.80")
GN63	65 (2.56")	53 (2.09")	14 (0.55")	4.3 (0.17")	34.5 (1.36")	26 (1.02")	62 (2.44")	48 (1.89")	65 (2.56")	7 (0.27")	50.3 (1.98")	68.4 (2.69")	86.5 (3.40")	104.6 (4.12")	122.7 (4.83")	140.8 (5.54")
GN125	90 (3.54")	70.5 (2.77")	16 (0.63")	5.3 (0.21")	41.5 (1.63")	28 (1.10")	84 (3.31")	68 (2.68")	90 (3.54")	9 (0.35")	67.3 (2.65")	96.4 (3.79")	125.5 (4.94")	154.6 (6.09")	183.7 (7.23")	212.8 (8.38")

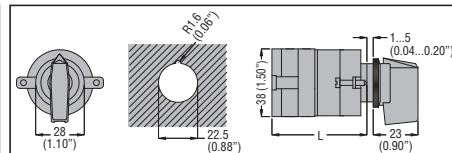
10

Front ring mount on Ø22mm drilling, 2-screw fixing



Type	L [mm]			
	1 wafer	2 wafers	3 wafers	4 wafers
GN12	41.5 (1.63")	51.1 (2.01")	60.7 (2.39")	70.3 (2.77")
GN20	42.1 (1.66")	51.8 (2.04")	61.5 (2.42")	71.2 (2.80")
GN25	46.5 (1.83")	60.1 (2.37")	73.7 (2.90")	87.3 (3.44")

Front ring mount on Ø22mm drilling, 2-screw fixing

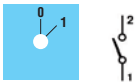


Type	L [mm]			
	1 wafer	2 wafers	3 wafers	4 wafers
GN12	41.5 (1.63")	51.1 (2.01")	60.7 (2.39")	70.3 (2.77")
GN20	42.1 (1.66")	51.8 (2.04")	61.5 (2.42")	71.2 (2.80")
GN25	46.5 (1.83")	60.1 (2.37")	73.7 (2.90")	87.3 (3.44")

10 Rotary cam switches

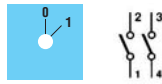
Wiring diagrams

90 - One-pole ON/OFF switch



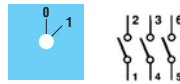
Number of wafers: 1
Switching angle: 60°

91 - Two-pole ON/OFF switch



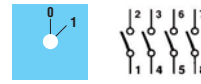
Number of wafers: 1
Switching angle: 60°

10 - Three-pole ON/OFF switch



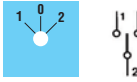
Number of wafers: 2
Switching angle: 60°

92 - Four-pole ON/OFF switch



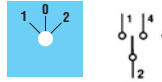
Number of wafers: 2
Switching angle: 60°

51 - 1-pole changeover / double throw switch with 0



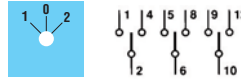
Number of wafers: 1
Switching angle: 60°

52 - 2-pole changeover / double throw switch with 0



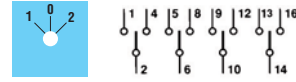
Number of wafers: 2
Switching angle: 60°

53 - 3-pole changeover / double throw switch with 0



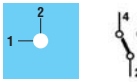
Number of wafers: 3
Switching angle: 60°

75 - 4-pole changeover / double throw switch with 0



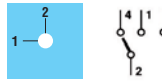
Number of wafers: 4
Switching angle: 60°

54 - 1-pole changeover / double throw without 0



Number of wafers: 1
Switching angle: 90°

55 - 2-pole changeover / double throw without 0



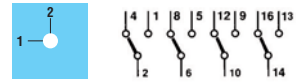
Number of wafers: 2
Switching angle: 90°

56 - 3-pole changeover / double throw without 0



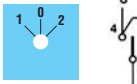
Number of wafers: 3
Switching angle: 90°

69 - 4-pole changeover / double throw without 0



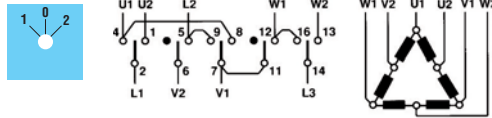
Number of wafers: 4
Switching angle: 90°

11 - 3-pole reversing switch



Number of wafers: 3
Switching angle: 60°

13 - Pole-changing switch with 0 (Dahlander)



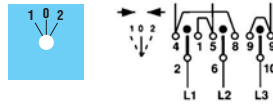
Number of wafers: 4
Switching angle: 60°

12 - Star-delta switch



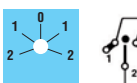
Number of wafers: 4
Switching angle: 60°

26 - Reversing switch, spring return to 0



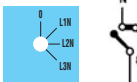
Number of wafers: 3
Switching angle: 30°

20 - Pole-changing switch with reversing (Dahlander)



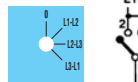
Number of wafers: 6
Switching angle: 60°

68 - Phase-neutral voltmeter switch



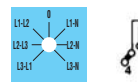
Number of wafers: 2
Switching angle: 30°

67 - Phase-phase voltmeter switch



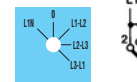
Number of wafers: 2
Switching angle: 30°

66 - Phase-phase phase-neutral voltmeter changeover / double throw



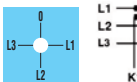
Number of wafers: 3
Switching angle: 30°

60 - Changeover / double throw switch 1 phase phase-neutral, 3 phase-phase voltages

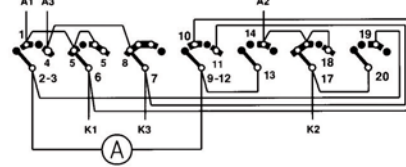


Number of wafers: 3
Switching angle: 30°

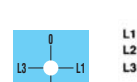
97 - Ammeter switch direct reading or via current transformer



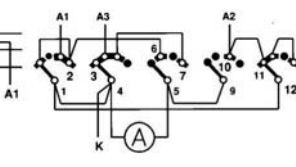
Number of wafers: 5
Switching angle: 90°



98 - L1-L2-L3 current changeover / double throw switch



Number of wafers: 4
Switching angle: 90°



10 Rotary cam switches

Technical characteristics

SELECTION GUIDE

The choice of a rotary cam switch and the relative type are based on the functional diagram and the type of application as well.

IEC standards provide a comprehensible and quick classification of the most frequent utilisation categories:

- AC1: Connection and disconnection of non-inductive or slightly inductive loads ($\cos\varphi \geq 0.95$)
 AC21: Resistance furnaces
 AC3: Starting and switching off motors during running
 AC23A: Switching of motor loads or other highly inductive loads
 AC15: Control of electromagnetic loads

For DC applications, the rotary cam switches are used for the switching of minor loads or in control circuits, such as:

- DC13: Control of electromagnets
 DC21A: Switching of resistive loads
 DC23: Switching of highly inductive loads

Other prescriptions and recommendations concerning the use of cam switches as auxiliary equipment of electrical machines are given in IEC/EN 60204-1 standards and specifically as given under utilisation.

UTILISATION

MAIN SUPPLY DISCONNECTING SWITCH WITH EMERGENCY-STOP OPERATION:

- Red operating handle with yellow background
- Lockable in open position (OFF).

EMERGENCY-STOP SWITCH

- Red operating handle with yellow background
- Independent operation and the breaking of the load circuit of switching devices before the opening of its main contacts
- Rated capacity is to be sufficient in order to break the sum of the rated operating currents of all the connected equipment
- Breaking capacity equal to the current of the largest motor when stalled (locked rotor) together with the total of the normal running currents of the other motors or loads.

MAIN SUPPLY DISCONNECTING SWITCH

- Used to disconnect all live electrical equipment from the power supply circuit
- Contact clearance distance is to comply with IEC/EN 60947-3 standards
- Provided with a means in order to be locked in the OFF position
- Selection of current breaking according to IEC AC1 and AC21 utilisation categories.

TYPE		GX16	GX20	GX32	GX40	GN12	GN20	GN25	GN32	GN40	GN63	GN125		
Rated insulation voltage ^① Ui IEC/EN UL/CSA	V	690	690	690	690	690	690	690	690	690	690	690		
	V	600	600	600	600	600	600	600	600	600	600	600		
Rated impulse withstand voltage ^① Uimp IEC/EN 60947-3	kV	6	6	6	6	6	6	6	6	6	6	8		
Conventional free air thermal current Ith IEC/EN UL/CSA (general purpose use)	A	16	20	32	40	16	20	25	32	40	63	125		
	A	12	15	32	40	15	20	30	40	50	60	130		
Rated operating voltage (switch disconnect) ^①	V	440	440	440	440	480	480	480	480	480	480	690		
Operational impulse voltage (switch disconnect)	kV	4	4	4	4	4	4	4	4	4	4	6		
Maximum fuse size for short-circuit protection In (gG)	10kA	A	20	20	40	40	16	20	25	32	40	63	125	
	25kA	A	16	16	35	35	10	16	25	32	40	63	100	
	50kA	A	-	-	32	35	-	-	-	32	40	63	100	
	63kA	A	-	-	-	35	-	-	-	-	40	63	100	
Short-time withstand current Icw 1sec	A	250	250	800	800	200	250	400	800	1000	1600	2100		
Rated operational current Ie AC1/AC21A (IEC/EN)	A	16	20	32	40	16	20	25	32	40	63	125		
	110V	A	10	10	25	25	10	10	16	25	25	32	40	
	AC15 (IEC/EN) 220...230V	A	8	8	20	22	8	8	12	20	22	25	28	
	380...400V	A	4	6	10	12	4	6	8	10	12	15	15	
	660...690V	A	3	3.7	5.5	7.5	1.5	1.5	2	2	2	4	5	
Motor power for switches in AC utilisation categories AC3 (IEC/EN) 3 phases	220...230V	kW	3.5	3.7	7.5	7.5	2.5	3	5.5	7.5	8	11	18.5	
	380...440V	kW	4.5	5.5	11	15	4	5.5	7.5	11	15	18.5	37	
	500...690V	kW	5.5	5.5	11	15	5.5	5.5	7.5	11	15	18.5	33	
	1 phase (2 poles)	110V	kW	0.55	0.75	1.8	2.2	0.8	0.8	1.5	2.2	3	3.7	5
		220...230V	kW	1.5	1.8	3.5	4.4	1.5	2.2	3	4	6.5	6.5	11
		380...440V	kW	2.2	3	5.5	7	2.2	3	5.5	6.5	8	11.5	15
	AC23A (IEC/EN) 3 phases	220...230V	kW	3.7	4	8	9	3	5	6.5	8	8	12.5	30
		380...440V	kW	6.5	7.5	15	18.5	5.5	7.5	11	15	18.5	30	45
		500...690V	kW	7.5	7.5	15	15	7.5	7.5	11	18.5	22	30	37
1 phase (2 poles)	110V	kW	0.75	0.75	2.2	3	0.8	0.8	1.5	2.2	3	3.7	5	
	220...230V	kW	1.8	2.2	3.5	5.2	1.7	2.5	3.7	4	6	7.5	11	
	380...440V	kW	3	3.5	6	7.5	3	3.7	5.5	7.5	11	12.5	15	

① Valid for systems with earthed neutral, overvoltage category III, pollution degree 3.

10 Rotary cam switches

Technical characteristics

TYPE			GX16	GX20	GX32	GX40	GN12	GN20	GN25	GN32	GN40	GN63	GN125
Motor power for direct-on-line control (UL/CSA-DOL) 3 phases	120V	HP	1.5	1.5	3	5	-	-	-	-	-	-	-
	230V	HP	3	3	7.5	10	3	3	-	-	-	-	-
	480V	HP	5	5	15	15	-	-	10	15	20	25	50
	600V	HP	5	5	15	15	-	-	-	-	-	-	40
	1 phase (2 poles)												
	120V	HP	0.75	0.75	1.5	2	-	-	-	-	-	-	-
	230V	HP	1	1.5	3	5	-	-	-	-	-	-	-
Motor power for switches in DC utilisation categories													
1 contact DC21A	48V	A	16	20	32	40	12	20	25	32	40	63	125
	60V	A	16	20	32	40	12	20	25	32	40	50	80
	110V	A	4	4	5	6	4	4	4	6	6	8	10
	220V	A	0.5	0.6	0.8	0.8	0.6	0.6	0.7	0.9	0.9	1	1.2
	440V	A	0.25	0.25	0.25	0.25	0.25	0.25	-	-	-	-	-
DC23A	24V	A	16(1)	20(1)	32(1)	40(1)	10(1)	20(1)	25(1)	32(1)	40(1)	50(1)	125(1)
	48V	A	16(2)	20(2)	32(2)	40(1)	10(2)	20(2)	25(2)	32(2)	40(2)	50(2)	125(2)
	60V	A	16(3)	20(3)	32(3)	40(3)	10(3)	20(3)	25(3)	32(3)	40(3)	50(3)	125(3)
No. of contacts connected in series are indicated in brackets	110V	A	10(3)	10(3)	15(3)	20(3)	5(3)	10(3)	12(3)	15(3)	20(3)	25(3)	50(3)
	220V	A	7(4)	8(4)	12(4)	12(4)	5(4)	8(4)	10(4)	12(4)	12(4)	15(4)	20(4)
DC13	24V	A	16	20	32	40	12	20	25	32	40	63	125
	48V	A	14	16	25	32	10	16	20	25	32	40	100
	60V	A	12	12	16	16	8	12	16	16	16	28	50
	110V	A	0.8	1	3	3	1	1	1.5	3	3	3.3	4
	220V	A	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.5	-	-	-
	440V	A	0.15	0.15	0.15	0.15	0.15	0.15	-	-	-	-	
Power dissipation	W/pole		0.6	0.6	1.6	1.6	0.8	0.8	1.1	1.5	2.0	3.4	6.3
Mechanical life	cycles		5x10 ⁶	5x10 ⁶	5x10 ⁶	5x10 ⁶	3x10 ⁶	5x10 ⁶	5x10 ⁶	5x10 ⁶	5x10 ⁶	5x10 ⁶	1x10 ⁶
Terminal screw	M		3	3	4	4	3	3	3.5	4	4	5	2x5
Tightening torque	max	Nm	0.5	0.8	1.2	1.2	0.5	0.5	0.8	1.2	1.2	2	2
Conductor cross section	max. r/f	2 mm ²	2.5/2.5	2.5/2.5	10/6	10/6	2.5/2.5	2.5/2.5	4/4	6/4	10/6	16/10	50/50
		2 AWG	14/14	14/14	8/10	8/10	14/16	12/14	10/12	8/10	8/10	6/8	1/0 / 1/0
r: rigid/solid f: flexible/stranded	min. r/f	2 mm ²	0.5/0.5	0.5/0.5	1.5/1.5	1.5/1.5	0.5/0.5	0.5/0.5	0.5/0.5	1.5/1.5	1.5/1.5	2.5/2.5	2.5/2.5
		2 AWG	20/20	20/20	16/16	16/16	20/20	20/20	20/20	16/16	16/16	14/14	14/14
AMBIENT CONDITIONS													
Operating temperature	°C		-25...+55										
Storage temperature	°C		-40...+70										