

Metal-bodied limit switches

D I

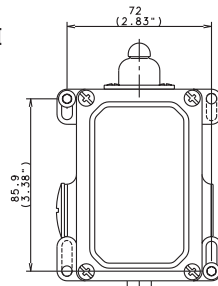
Heavy duty housing
For harsh operating environment
Robust design of actuator assembly
and contact systems
Protection class IP 65



- Robust contact assembly
- Guide bushings resistant to wear & tear
- Large range of actuators
- Snap action or slow make & break contacts
- Extended body (D II) for multiple pole contact versions
- Forced disconnections of NC contacts (type dependant)
- Protection class IP 65
- Aluminum body and lid
- 4 x 90° actuator positions (type dependant)
- Two cable entries M 20 x 1.5 (type D I)
- International approvals

- On request: Two cable entries M 20 x 1.5 (type D II) for increased contact functions

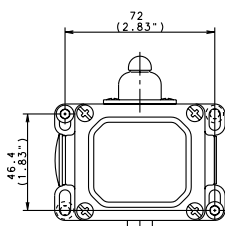
Type D II



Installation benefits

- Two cable entries for easy "through wiring"
- Spacious connection area
- Captive lid screws
- Slotted mounting holes

Type D I



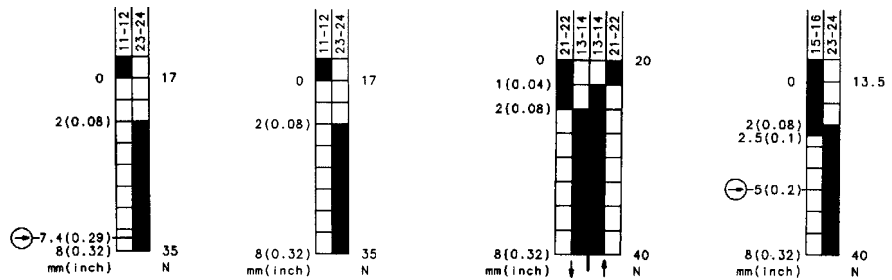
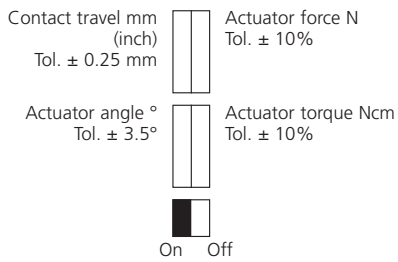
Contact configuration

Contact type	Switch function	Switch contacts	Reference	Max. voltage	Max. constant current
Slow make & break	Changeover	1NC/1NO	U1	500 V	16 A
Snap action	Changeover	1NC/1NO	SU1	500 V	16 A
Slow make & break	NC	1NC	A1Z	400 V	16 A
Slow make & break	NC	2NC	A2	400 V	16 A
Slow make & break	NC	3NC	A3Z	400 V	16 A
Slow make & break	NO	2NO	E2	400 V	16 A
Slow make & break	Changeover overlapping	1NC/1NO	UV1/UV1Z	400 V	16 A
Slow make & break	Changeover	1NC/1NO	U11	500 V	16 A
Slow make & break	Changeover	2NC/2NO	U2	500 V	16 A
Snap action	Changeover	2NC/2NO	SU2	500 V	16 A



Designation
Part number
 Circuit diagram
 ⊕ Forced disconnect to IEC 947-5-1 chapter 3
 Za: not galvanically separated contacts
 Zb: galvanically separated contacts
 Slow make & break/snap-action
 Internal seal (iw)/external seal (w)

D-U1Z Rw	D-U1 Rw	D-SU1 Rw	D-UV1Z Rw
604.1118.229	604.1118.008	604.1168.162	604.1318.140
⊕ Za	-	-	⊕ Zb
●/-	●/-	-/●	●/-
w	w	w	w



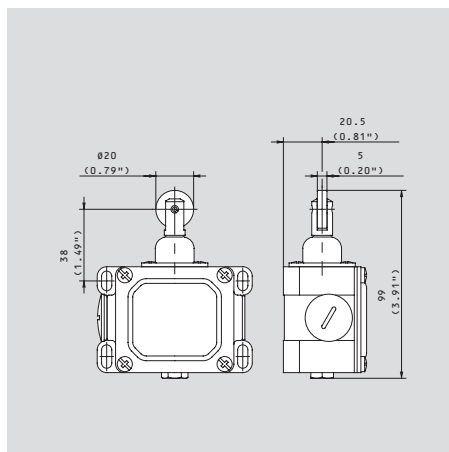
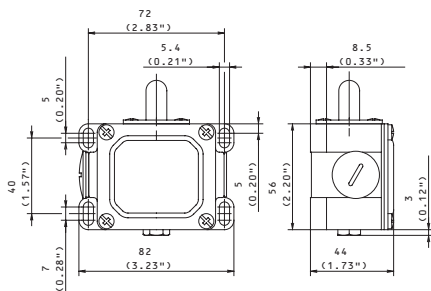
Voltage	max.
Permanent current	max.
In-rush current complies with standards	
IEC 947-5-1 AC 15/DC 13	
Switching frequency	max.
Mechanical life – number of switching actions	
Operating temperature	min./max.

500 V AC	500 V AC	500 V AC	400 V AC
16 A	16 A	16 A	16 A
●	●	●	●
100/min.	100/min.	100/min.	100/min.
10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F

Approvals	
Weight	
Delivery: ex-stock/built to order	

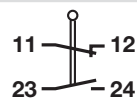
CSA	CSA	CSA	CSA
0.28 kg/0.62 lb	0.28 kg/0.62 lb	0.28 kg/0.62 lb	0.28 kg/0.62 lb
●/-	●/-	●/-	●/-

All dimensions in mm (inch)



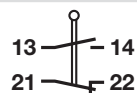


D-U1 AH
604.1135.019



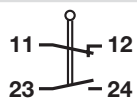
-
●/-
iw

D-SU1 AH
604.1185.173



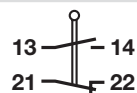
-
-/●
iw

D-U1 Hw
604.1121.010



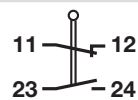
-
●/-
W

D-SU1 Hw
604.1171.164



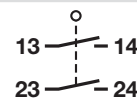
-
-/●
W

D-U1 Pw
604.1113.006

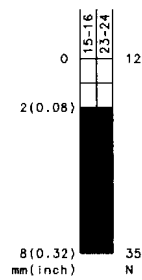
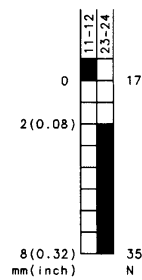
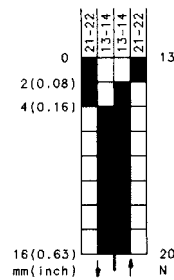
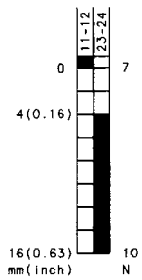
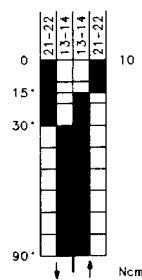
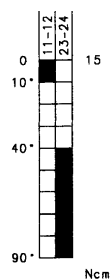


-
●/-
W

D-E2 Pw
604.1813.050



-
●/-
W



500 V AC
16 A

500 V AC
16 A

500 V AC
16 A

500 V AC
16 A

500 V AC
16 A

400 V AC
16 A

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

CSA

CSA

CSA

CSA

CSA

CSA

0.40 kg/0.88 lb
●/-

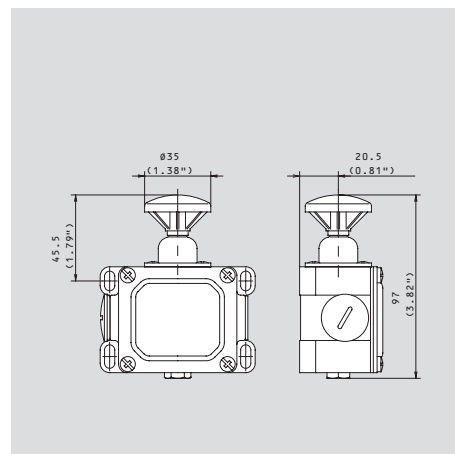
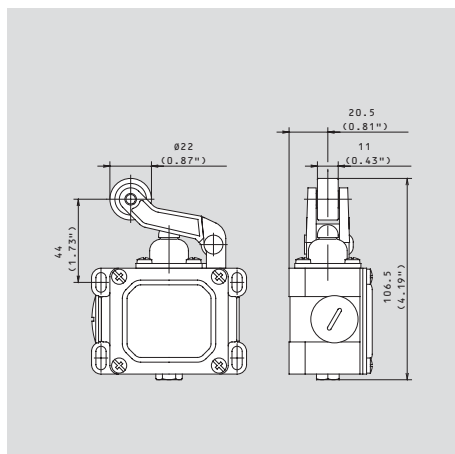
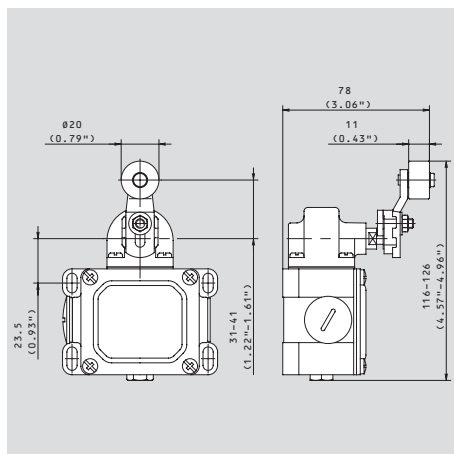
0.40 kg/0.88 lb
●/-

0.33 kg/0.73 lb
●/-

0.33 kg/0.73 lb
●/-

0.28 kg/0.62 lb
●/-

0.28 kg/0.62 lb
●/-



Metal-bodied limit switches

ENM 2

Standard switch according to DIN EN 50041
Protection class IP 65



- Increased number of switching functions for safety applications
- Galvanically separated contacts
- Forced disconnection of NC contacts (type dependant)
- Person-protection function ⊕ (depending on model)
- Protection class IP 65
- Aluminum body and lid
- Operating device: 4 x 90° actuator positions
- Cable entry M 20 x 1.5
- International approvals

Mounting

- 2 x M 5 screws, adjustment via elongated holes
- 2 x M 5 screws for safety applications without additional attachment

Mounting advantages

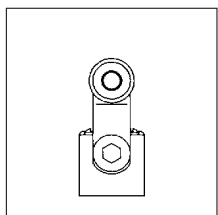
- Increased wiring space
- Earthing surface on same level as switching system
- Turret
Lever: 7.5° / 15° adjustable
- Contact made independent of direction
- Screw terminals with self lifting clamps for easy wiring
- Fine adjustment of switching point via adjusting screw
- Captive lid screws

Options

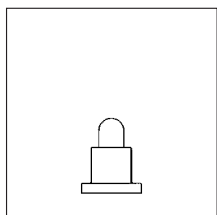
- Latching with contact locking (strain lock-release for safety reasons)
- LED indication of switching status
- EEx certificated versions available acc. ATEX 100 a guideline 94/9/EG
⊕ II 2 G EEx d II C T6
TÜV 03 ATEX 2043 X



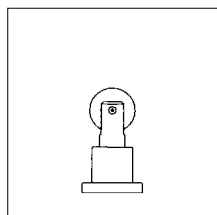
Standard actuating element DIN EN 50041



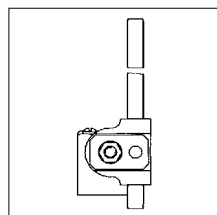
Form A



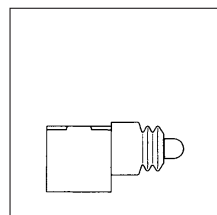
Form B



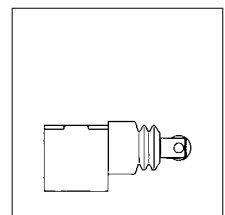
Form C



Form D



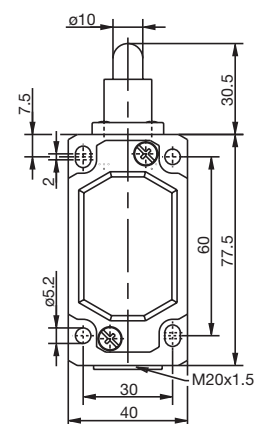
Form F
(available upon request)



Form G
(available upon request)

Standard contact configuration

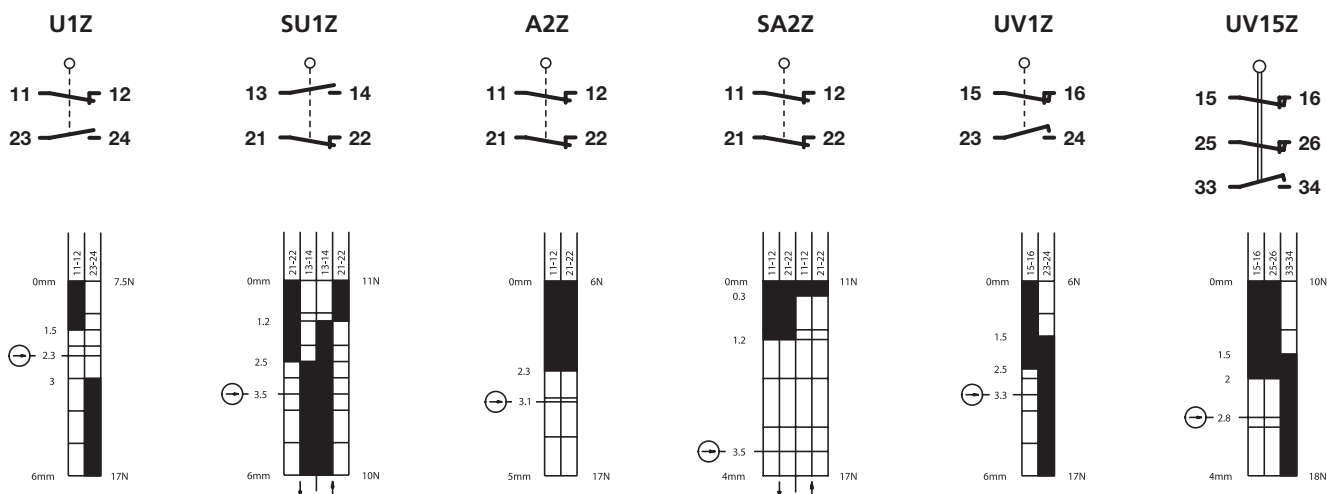
Switching element	Switch function	Switch contact	Designation	Voltage	Continuous current
Slow-action	changeover	1NC/1NO	U1/U1Z	400 V	10 A
Snap-action	changeover	1NC/1NO	SU1/SU1Z	400 V	10 A
Slow-action	normally-closed	2NC	A2/A2Z	400 V	10 A
Snap-action	normally-closed	2NC	SA2/SA2Z	250 V	10 A
Slow-action (overlapping)	changeover	1NC/1NO	UV1/UV1Z	400 V	10 A
Slow-action (overlapping)	changeover	2NC/1NO	UV15/UV15Z	400 V	5 A



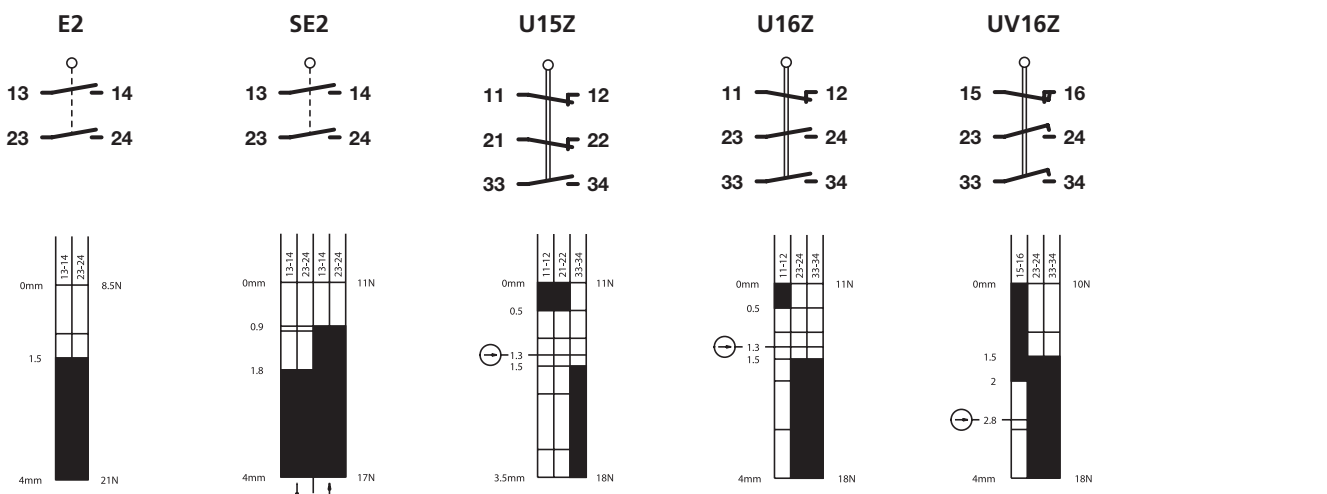
Optional contact configuration

Switching element	Switch function	Switch contact	Designation	Voltage	Continuous current
Slow-action	normally-open	2NO	E2	250 V	10 A
Snap-action	normally-open	2NO	SE2	250 V	10 A
Slow-action	changeover	2NC/1NO	U15/U15Z	400 V	5 A
Slow-action	changeover	1NC/2NO	U16/U16Z	400 V	5 A
Slow-action (overlapping)	changeover	1NC/2NO	UV16/UV16Z	400 V	5 A

Contact travel diagrams and graphic symbols



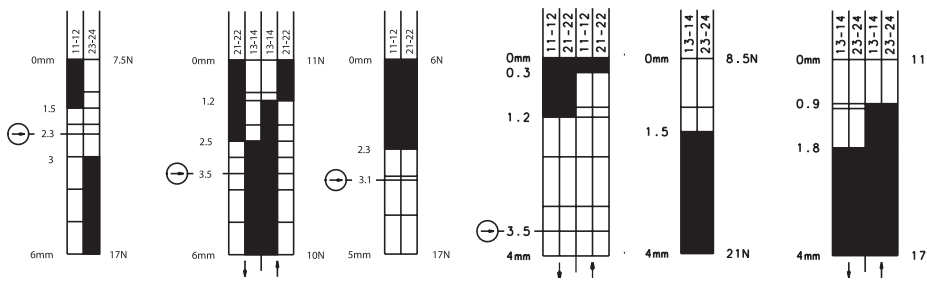
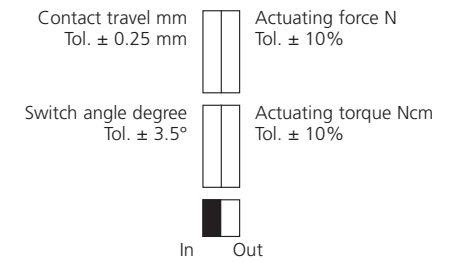
On request





Designation
Part number
 Switching diagram
 ⊕ Positive break according to IEC 947-5-1 Chap. 3
 Za: changeover contact is not galvanically isolated
 Zb: changeover contact is galvanically isolated
 Slow-action contact / snap-action contact
 Gasket inside (iw)/outside (w)

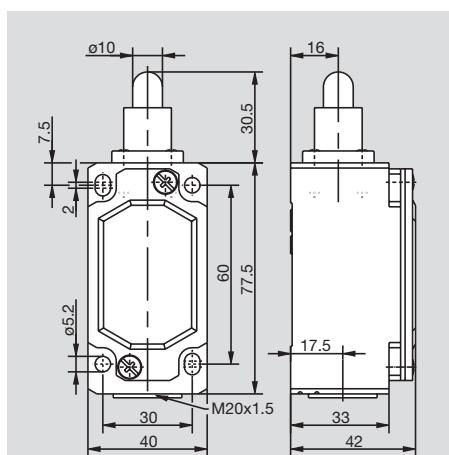
ENM2-U1Z iw	ENM2-SU1Z iw	ENM2-A2Z iw	ENM2-SA2Z iw	ENM2-E2 iw	ENM2-SE2 iw
608.7102.001	608.7352.002	608.7802.003	608.7852.020	608.7802.021	608.7852.022
⊕ Zb	⊕ Zb	⊕ Zb	⊕ Zb	⊕ Zb	⊕ Zb
●/-	-/●	●/-	-/●	●/-	-/●
iw	iw	iw	iw	iw	iw



Voltage	max.	400 V AC
Continuous current	max.	10 A
Making current, acc. to IEC 947-5-1 AC 15/DC 13		●
Switching frequency	max.	100/min.
Mech. operational life – number of switching cycles		10 x 10 ⁵
Ambient temperature	min./max.	-30 °C/+80 °C -22 °F/+176 °F
Standard actuating element	Form	B
Approvals (applied for)		UL, CSA
Weight		0.20 kg
Delivery: ex-stock/built to order		●/-

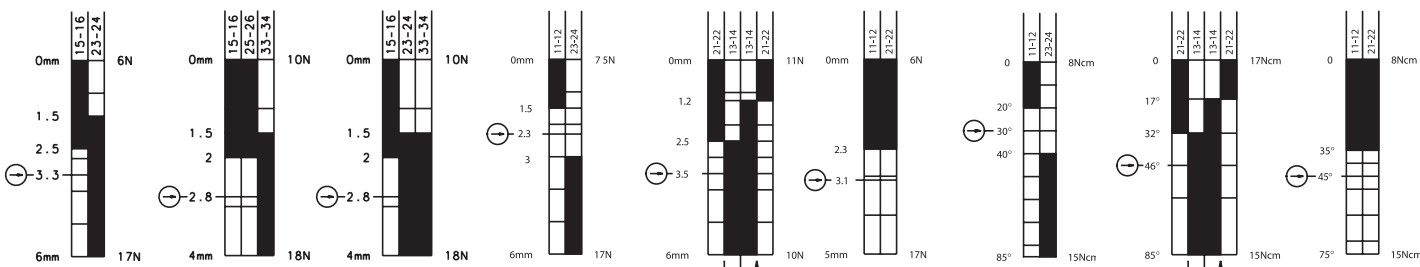
400 V AC	400 V AC	400 V AC	250 V AC	250 V AC	250 V AC
10 A	10 A	10 A	10 A	10 A	10 A
●	●	●	●	●	●
100/min.	100/min.	100/min.	100/min.	100/min.	100/min.
10 x 10 ⁵	10 x 10 ⁵	10 x 10 ⁵	3 x 10 ⁵	3 x 10 ⁵	3 x 10 ⁵
-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F
B	B	B	C	C	C
UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
0.20 kg	0.20 kg	0.20 kg	0.20 kg	0.20 kg	0.20 kg
●/-	●/-	●/-	-/●	●/-	-/●

All dimensions in mm

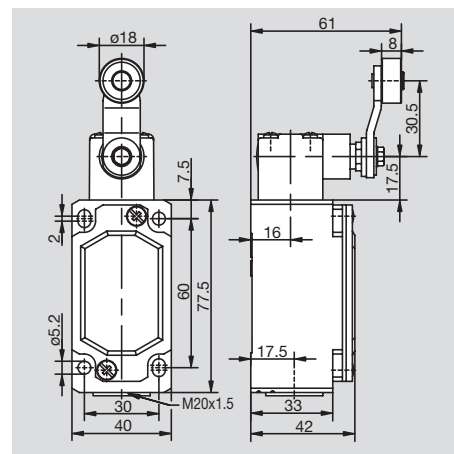
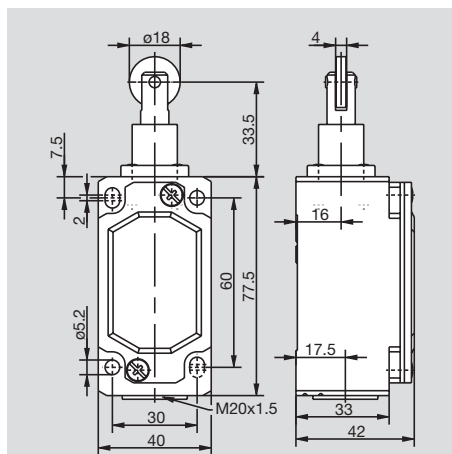




ENM2-UV1Z iw 608.7302.027	ENM2-UV15Z iw 608.7602.024	ENM2-UV16Z iw 608.7602.026	ENM2-U1Z Riw 608.7117.004	ENM2-SU1Z Riw 608.7367.005	ENM2-A2Z Riw 608.7817.006	ENM2-U1Z AHS-V 608.7135.013	ENM2-SU1Z AHS-V 608.7385.014	ENM2-A2Z AHS-V 608.7835.015
●/- iw	●/- iw	●/- iw	●/- iw	-/● iw	●/- iw	●/- iw	-/● iw	●/- iw

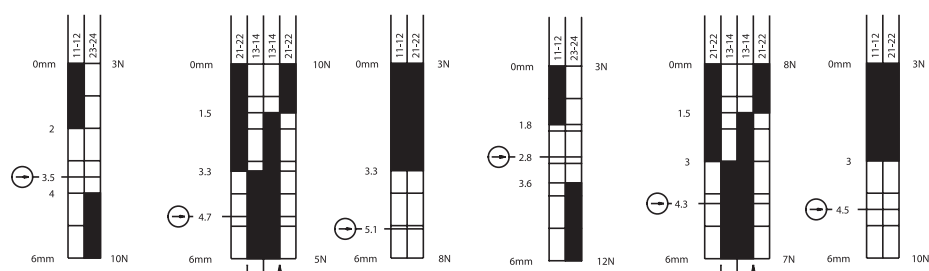
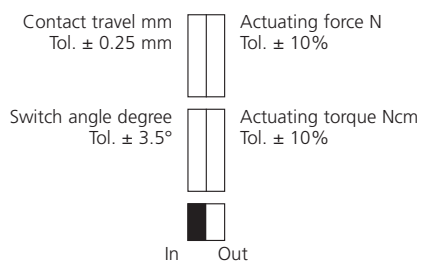


400 V AC 10 A ●	400 V AC 5 A ●	400 V AC 5 A ●	400 V AC 10 A ●	400 V AC 10 A ●	400 V AC 10 A ●	400 V AC 10 A ●	400 V AC 10 A ●	400 V AC 10 A ●
100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 1 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 1 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F	100/min. 10 x 10 ⁶ -30 °C/+80 °C -22 °F/+176 °F
C UL, CSA	C UL, CSA	C UL, CSA	C UL, CSA	C UL, CSA	C UL, CSA	A UL, CSA	A UL, CSA	A UL, CSA
0.20 kg ●/-	0.20 kg ●/-	0.20 kg ●/-	0.21 kg ●/-	0.21 kg ●/-	0.21 kg ●/-	0.28 kg ●/-	0.28 kg ●/-	0.28 kg ●/-





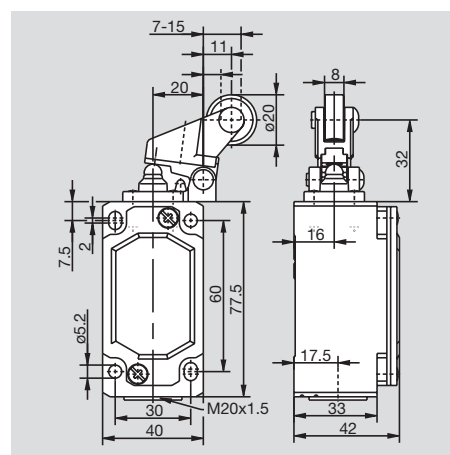
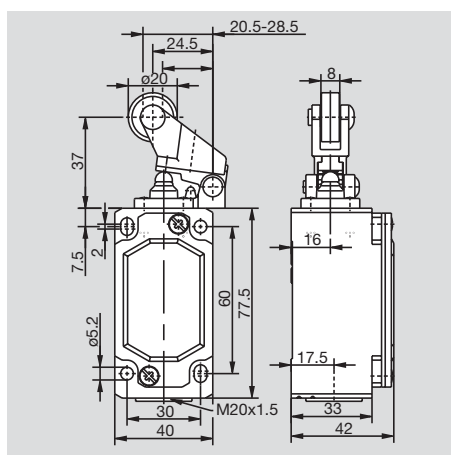
Designation	ENM2-U1Z DGHW	ENM2-SU1Z DGHW	ENM2-A2Z DGHW	ENM2-U1Z DGKW	ENM2-SU1Z DGKW	ENM-A2Z DGKW
Part number	608.7121.007	608.7371.008	608.7821.009	608.7127.010	608.7377.011	608.7827.012
Switching diagram						
⊕ Positive break according to IEC 947-5-1 Chap. 3	11 — 12	13 — 14	11 — 12	11 — 12	13 — 14	11 — 12
Za: changeover contact is not galvanically isolated	23 — 24	21 — 22	21 — 22	23 — 24	21 — 22	21 — 22
Zb: changeover contact is galvanically isolated	⊕ Zb	⊕ Zb	⊕ Zb	⊕ Zb	⊕ Zb	⊕ Zb
Slow-action contact / snap-action contact	●/-	-/●	●/-	●/-	-/●	●/-
Gasket inside (iw)/outside (w)	W	W	W	W	W	W



Voltage	max.	400 V AC	400 V AC	400 V AC	400 V AC	400 V AC	400 V AC
Continuous current	max.	10 A	10 A	10 A	10 A	10 A	10 A
Making current, acc. to IEC 947-5-1 AC 15/DC 13		●	●	●	●	●	●
Switching frequency	max.	100/min.	100/min.	100/min.	100/min.	100/min.	100/min.
Mech. operational life – number of switching cycles		10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
Ambient temperature	min./max.	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
		-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F
Standard actuating element	Form	-	-	-	-	-	-
Approvals (applied for)		UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
Weight		0.23 kg	0.23 kg	0.23 kg	0.23 kg	0.23 kg	0.23 kg
Delivery: ex-stock/built to order		-/●	-/●	-/●	-/●	-/●	-/●

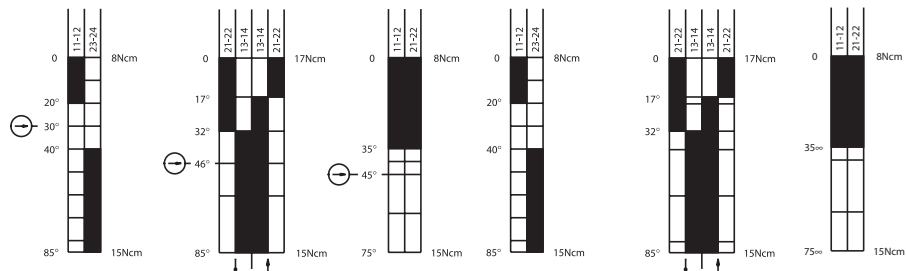
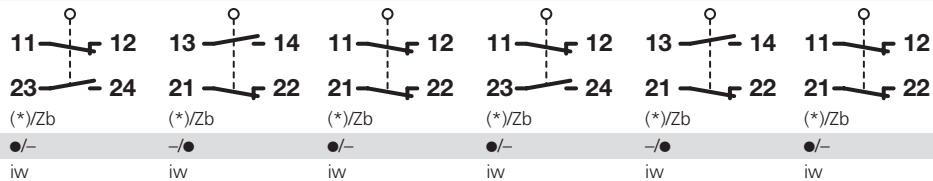
All dimensions in mm

(*) Adjustable operating devices are not recommended for safety applications.

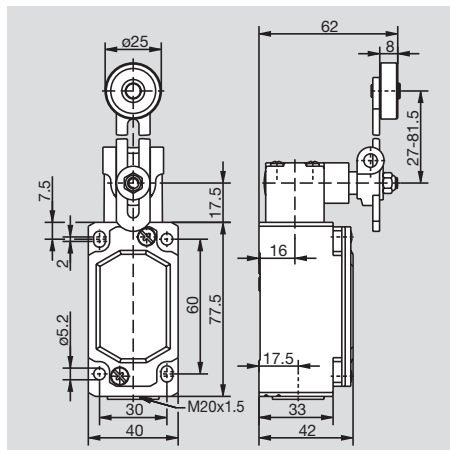
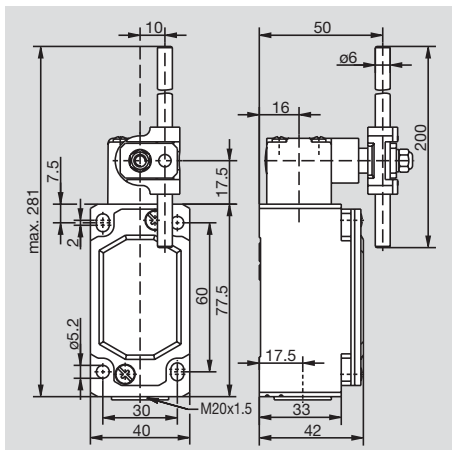




ENM2-U1 AD 608.7137.018	ENM2-SU1 AD 608.7387.019	ENM2-A2 AD 608.7837.029	ENM2-U1 AV 608.7136.016	ENM2-SU1 AV 608.7386.017	ENM2-A2 AV 608.7836.028
----------------------------	-----------------------------	----------------------------	----------------------------	-----------------------------	----------------------------



400 V AC	400 V AC	400 V AC	400 V AC	400 V AC	400 V AC
10 A	10 A	10 A	10 A	10 A	10 A
●	●	●	●	●	●
100/min.	100/min.	100/min.	100/min.	100/min.	100/min.
10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F
D	D	D	-	-	-
UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
0.29 kg	0.29 kg	0.29 kg	0.30 kg	0.30 kg	0.30 kg
V-	●/-	-/●	●/-	●/-	-/●



Metal-bodied limit switches

GC I

Slim design
Protection class IP 65
Very large range of actuators
Multiple pole contacts



- Snap action or slow make & break contacts
- Galvanically separated contacts (type dependant)
- Forced disconnection of NC contacts
- Protection class IP 65
- Aluminum body and lid
- 4 x 90° actuator positions
- Adjustment of the AH lever arm position in 90° increments
- Single direction operation of contacts with AH actuator (user selectable)
- Cable entry M 20 x 1.5
- Terminals numbered in accordance with DIN EN 50013
- International approvals
- Model range GC II for additional switch functions (on request)

Mounting

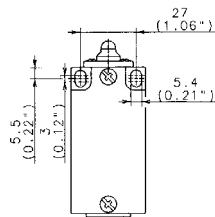
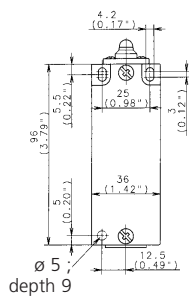
- Adjustable – two slots for M 4 screws

Benefits

- Screw terminals with self-lifting clamps for easy wiring
- Easily exchanged contact block with latch holding device
- Contact switch point adjustable with adjusting screw

Options

- Contact lock (button reset)
- Housing size I
Slots for M 5 fixing screws (27 mm pitch)
- EEx certificated versions available acc. ATEX 100 a guideline 94/9/EG
Ⓜ II 2 G EEx d II C T6
TÜV 03 ATEX 2043 X



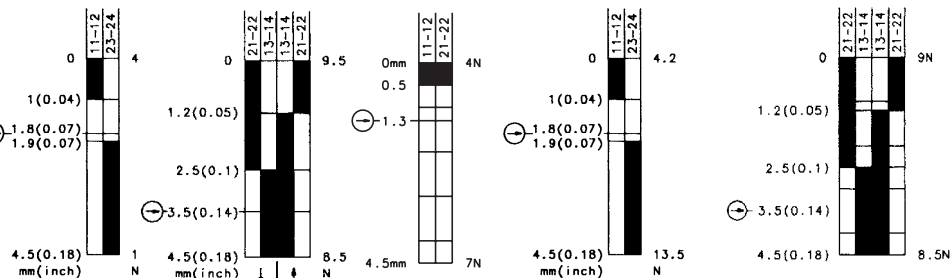
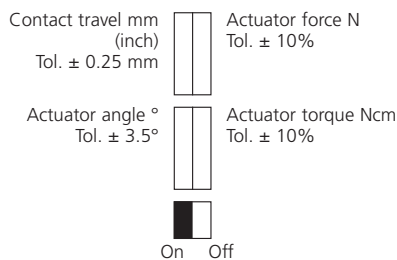
(For safety applications use 4 mm ø dowel in pre-formed blind hole on underside of switch body or select body with M 5 round holes)

Contact configuration

Contact type	Switch function	Switch contacts	Reference	Max. voltage	Max. constant current
Slow make & break	Changeover	1NC/1NO	U1/U1Z	500 V	10 A
Snap action	Changeover	1NC/1NO	SU1/SU1Z	500 V	10 A
Slow make & break	NC	2NC	A2Z	400 V	6 A
Slow make & break	NO	2NO	E2	400 V	6 A
Slow make & break	Changeover overlapping	1NC/1NO	UV1Z	500 V	10 A
Slow make & break	Changeover	2NC/1NO	U15Z	400 V	6 A
Slow make & break	Changeover	1NC/2NO	U16Z	400 V	6 A
Slow make & break	Changeover overlapping	2NC/1NO	UV15Z	400 V	6 A
Slow make & break	Changeover overlapping	1NC/2NO	UV16Z	400 V	6 A
Slow make & break	Changeover	2NC/2NO	U2Z	400 V	6 A
Snap action	Changeover	2NC/2NO	SU2	250 V	6 A

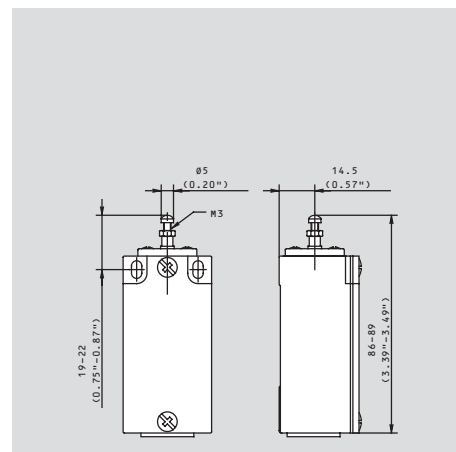
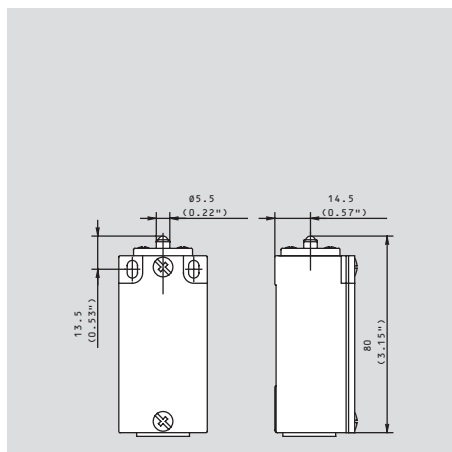
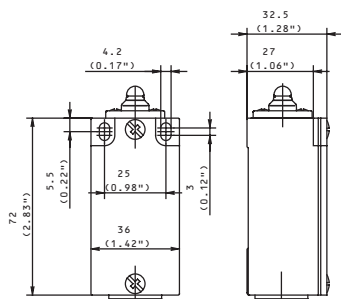


Designation	GC-U1Z iw	GC-SU1Z iw	GC-A2Z iw	GC-U1Z STiw	GC-SU1Z STiw
Part number	602.1102.001	602.1352.620	602.1802.189	602.1105.015	602.1155.017
Circuit diagram					
⊕ Forced disconnect to IEC 947-5-1 chapter 3					
Za: not galvanically separated contacts					
Zb: galvanically separated contacts					
Slow make & break/snap-action					
Internal seal (iw)/external seal (w)	iw	iw	iw	iw	iw



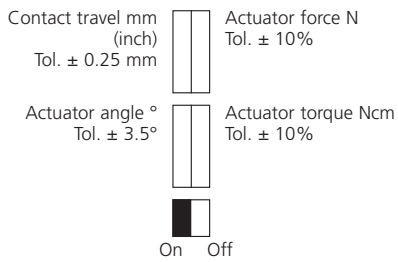
Voltage	max.	500 V AC	500 V AC	400 V AC	500 V AC	500 V AC
Permanent current	max.	10 A	10 A	6 A	10 A	10 A
In-rush current complies with standards		●	●	●	●	●
IEC 947-5-1 AC 15/DC 13						
Switching frequency	max.	100/min.	100/min.	100/min.	100/min.	100/min.
Mechanical life – number of switching actions		10 x 10 ⁶	10 x 10 ⁶	3 x 10 ⁵	10 x 10 ⁶	10 x 10 ⁶
Operating temperature	min./max.	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
		-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F
Approvals		UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
Weight		0.14 kg/0.31 lb	0.14 kg/0.31 lb	0.14 kg/0.31 lb	0.14 kg/0.31 lb	0.14 kg/0.31 lb
Delivery: ex-stock/built to order		●/-	●/-	-/●	●/-	●/-

All dimensions in mm (inch)



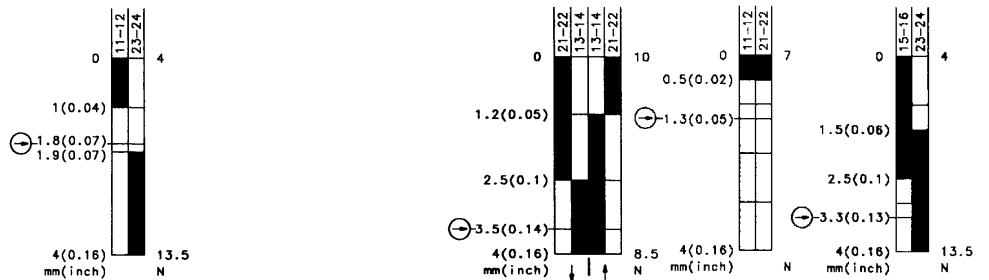


Designation
Part number
 Circuit diagram
 ⊕ Forced disconnect to IEC 947-5-1 chapter 3
 Za: not galvanically separated contacts
 Zb: galvanically separated contacts
 Slow make & break/snap-action
 Internal seal (iw)/external seal (w)



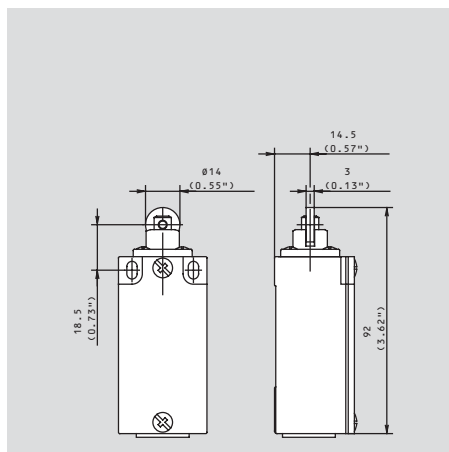
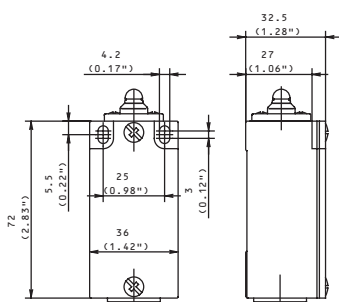
Voltage	max.
Permanent current	max.
In-rush current complies with standards	
IEC 947-5-1 AC 15/DC 13	
Switching frequency	max.
Mechanical life – number of switching actions	
Operating temperature	min./max.
Approvals	
Weight	
Delivery: ex-stock/built to order	

GC-U1Z Riw	GC-SU1Z Riw	GC-A2Z Riw	GC-UV1Z Riw
602.1117.029	602.1367.626	602.1817.172	602.1317.030
⊕ Zb	⊕ Zb	⊕ Za	⊕ Zb
●/-	-/●	●/-	●/-
iw	iw	iw	iw



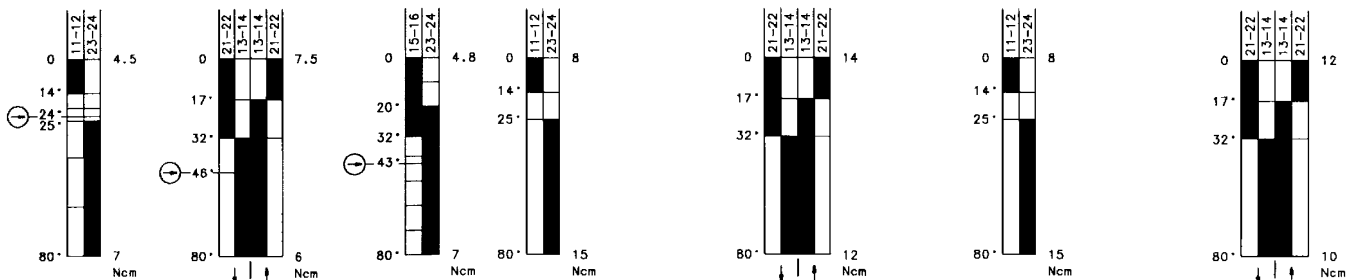
GC-U1Z Riw	GC-SU1Z Riw	GC-A2Z Riw	GC-UV1Z Riw
500 V AC	500 V AC	400 V AC	500 V AC
10 A	10 A	6 A	10 A
●	●	●	●
100/min.	100/min.	100/min.	100/min.
10 x 10 ⁶	10 x 10 ⁶	3 x 10 ⁶	10 x 10 ⁶
-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F
Approvals	UL, CSA	-	UL, CSA
Weight	0.15 kg/0.33 lb	0.15 kg/0.33 lb	0.15 kg/0.33 lb
Delivery: ex-stock/built to order	●/-	●/-	●/-

All dimensions in mm (inch)



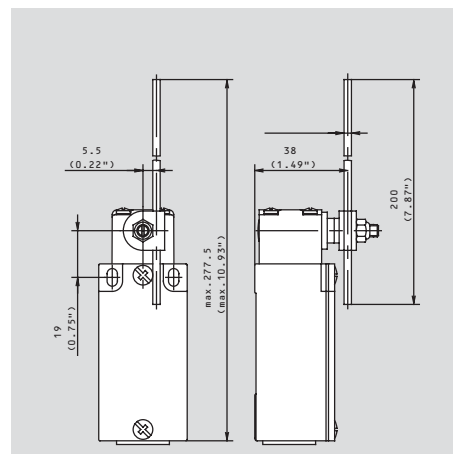
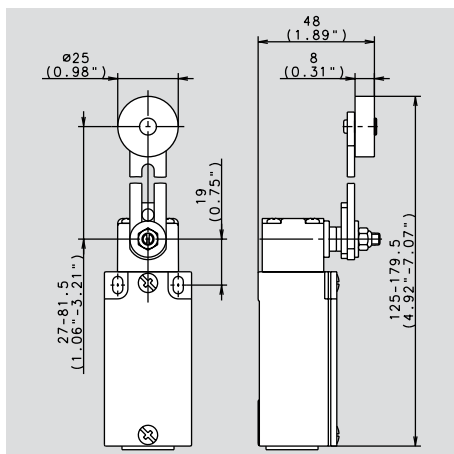
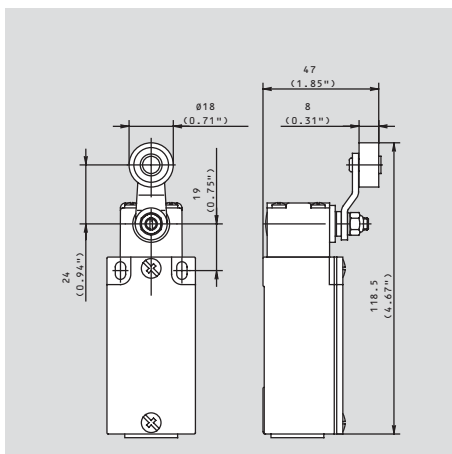


GC-U1Z AH 602.1135.102	GC-SU1Z AH 602.1385.634	GC-UV1Z AH 602.1335.133	GC-U1 AV 602.1136.104	GC-SU1 AV 602.1186.118	GC-U1 AD 602.1137.103	GC-SU1 AD 602.1187.125
●/-	●/-	●/-	●/-	-/●	●/-	-/●
iw	iw	iw	iw	iw	iw	iw



500 V AC	500 V AC	500 V AC	500 V AC	500 V AC	500 V AC	500 V AC
10 A	10 A	10 A	10 A	10 A	10 A	10 A
●	●	●	●	●	●	●
100/min.	100/min.	100/min.	100/min.	100/min.	100/min.	100/min.
10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F

UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
0.20 kg/0.44 lb	0.20 kg/0.44 lb	0.20 kg/0.44 lb	0.23 kg/0.51 lb	0.23 kg/0.51 lb	0.22 kg/0.49 lb	0.22 kg/0.49 lb
●/-	●/-	●/-	●/-	●/-	●/-	●/-

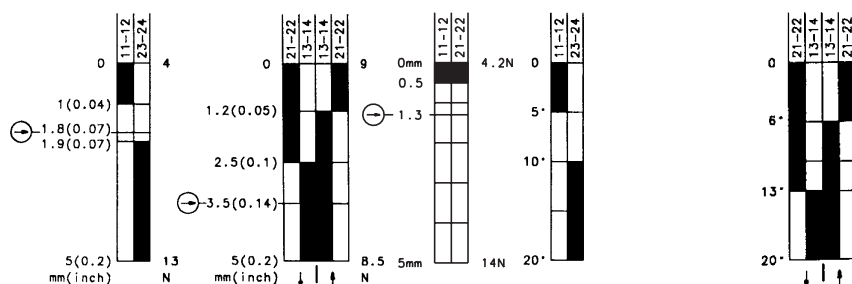




Designation
Part number
 Circuit diagram
 ⊕ Forced disconnect to IEC 947-5-1 chapter 3
 Za: not galvanically separated contacts
 Zb: galvanically separated contacts
 Slow make & break/snap-action
 Internal seal (iw)/external seal (w)

GC-U1Z Hiw	GC-SU1Z Hiw	GC-A2Z Hiw	GC-U1 FF	GC-SU1 FF
602.1120.057	602.1370.629	602.1820.175	602.1140.476	602.1190.100
⊕ Zb	⊕ Zb	⊕ Zb	Zb	Zb
●/-	-/●	●/-	●/-	-/●
iw	iw	iw	w	w

Contact travel mm
 Tol. ± 0.25 mm
 Actuator force N
 Tol. ± 10%
 Actuator angle °
 Tol. ± 3.5°
 Actuator torque Ncm
 Tol. ± 10%
 On Off



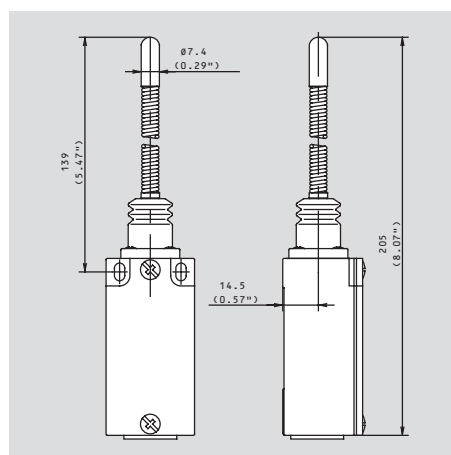
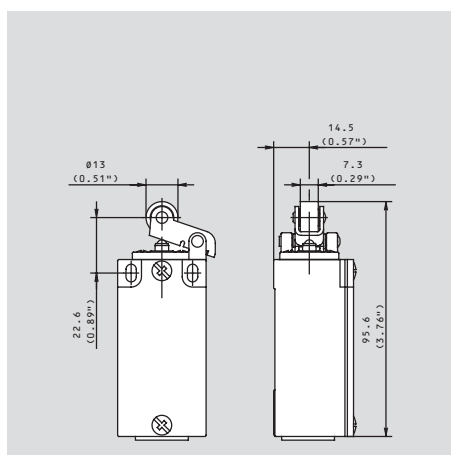
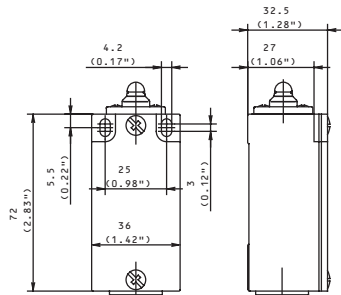
Voltage max.
 Permanent current max.
 In-rush current complies with standards
 IEC 947-5-1 AC 15/DC 13
 Switching frequency max.
 Mechanical life – number of switching actions
 Operating temperature min./max.

500 V AC	500 V AC	400 V AC	500 V AC	500 V AC
10 A	10 A	6 A	10 A	10 A
●	●	●	●	●
100/min.	100/min.	100/min.	100/min.	100/min.
10 x 10 ⁶	10 x 10 ⁶	3 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F

Approvals
 Weight
 Delivery: ex-stock/built to order

UL, CSA	UL, CSA	-	UL, CSA	UL, CSA
0.16 kg/0.35 lb	0.16 kg/0.35 lb	0.16 kg/0.35 lb	0.17 kg/0.37 lb	0.17 kg/0.37 lb
●/-	●/-	-/●	●/-	●/-

All dimensions in mm (inch)

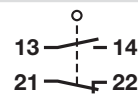
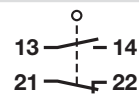
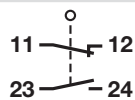




GC-U1 AF
602.1139.106

GC-SU1 AF
602.1189.128

GC-SU1 DR
602.1191.099



Zb
●/-

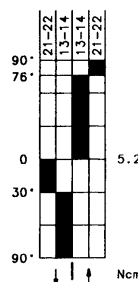
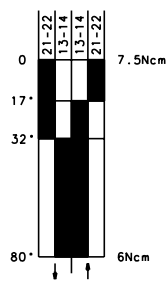
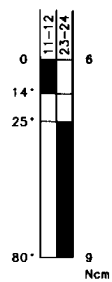
Zb
-/●

Zb
-/●

iv

iv

iv



500 V AC
10 A

500 V AC
10 A

500 V AC
10 A

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

100/min.
10 x 10⁶
-30 °C/+80 °C
-22 °F/+176 °F

UL, CSA

UL, CSA

UL, CSA

0.21 kg/0.46 lb

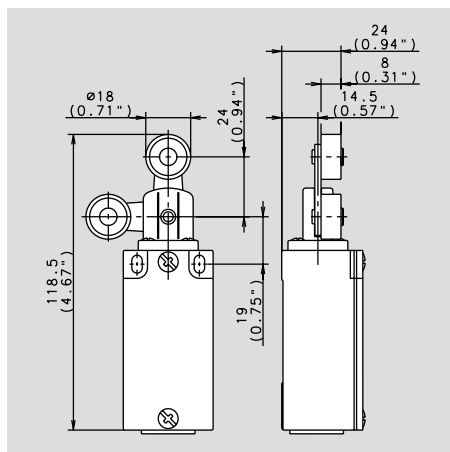
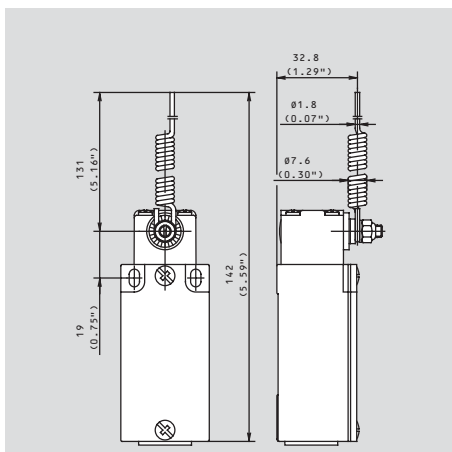
0.21 kg/0.46 lb

0.18 kg/0.40 lb

●/-

●/-

●/-



Metal-bodied limit switches

SN 2

Versatile mounting options
Protection class IP 65



CE



- Large range of actuators
- Snap action/slow make & break contacts
- Galvanically separated contacts
- Forced disconnection of NC contacts (type dependant)
- Protection class IP 65
- Aluminum body and lid
- 4 x 90° actuator positions
- Single direction operation of contacts with AH actuator (user selectable)
- Three cable entries M 20 x 1.5
- Adjustment of the AH lever arm position in 90° increments
- Terminals numbered in accordance with DIN EN 50013
- International approvals

Mounting

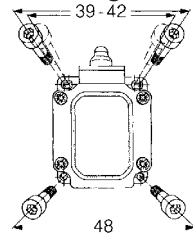


Fig. 1

- a) Adjustable – two slots for M 4 screws
- b) Fixed – two holes for M 5 screws for safety applications

Benefits

- Three cable entries allow "through wiring"

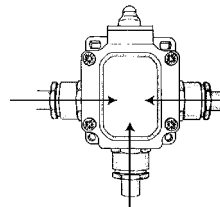


Fig. 2

- Two earth connection points

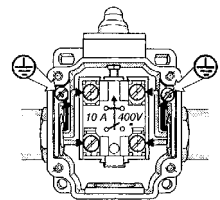


Fig. 3

- Spacious connection area
- Screw terminals with self lifting clamps for easy wiring
- Easily exchanged contact block with latch holding device
- Contact switch point finely adjustable with adjusting screw



Options

- Contact status display with LED (LED protected within terminal chamber)
- Three contact slow make & break 2NC/1NO, U15, 400 V, 6 A (fig. 4)
- Three contact slow make & break 1NC/2NO, U16, 400 V, 6 A (fig. 4)

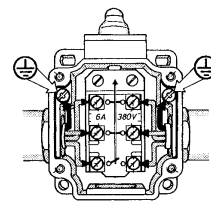


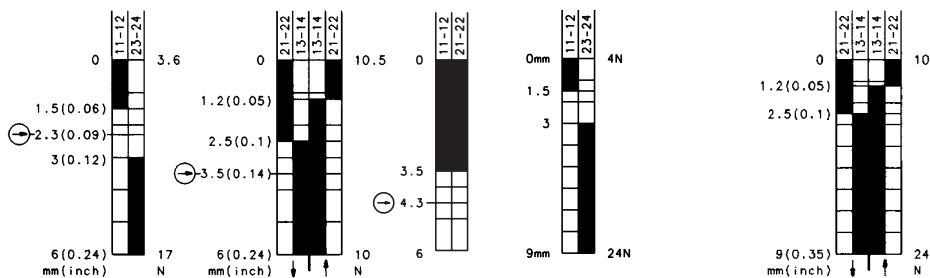
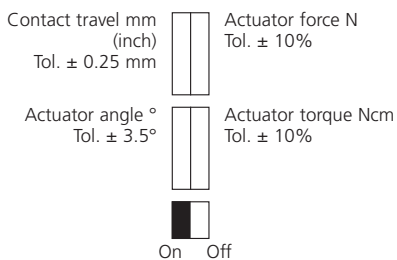
Fig. 4

Contact configuration

Contact type	Switch function	Switch contacts	Reference	Max. voltage	Max. constant current
Slow make & break	Changeover	1NC/1NO	U1/U1Z	400 V	10 A
Slow make & break	Changeover	1NC/1NO	SU1/SU1Z	400 V	10 A
Slow make & break	NC	2NC	A2/A2Z	400 V	10 A
Slow make & break	Changeover overlapping	1NC/1NO	UV1Z	400 V	10 A

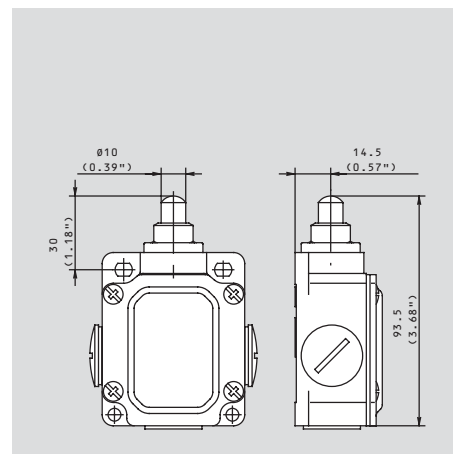
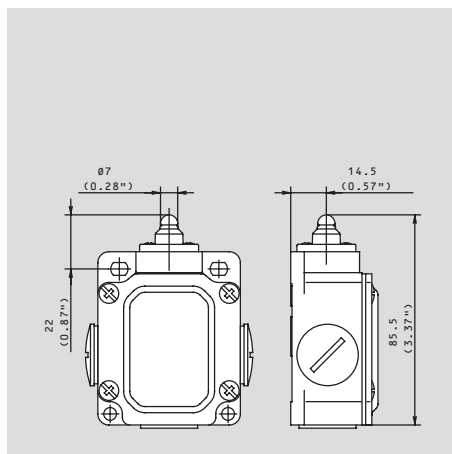
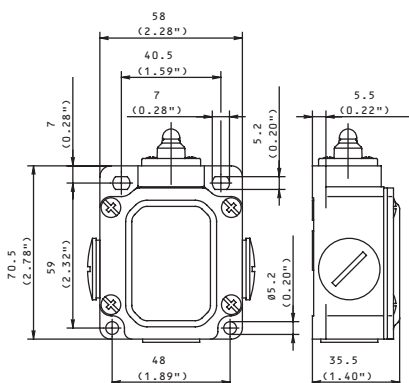


Designation	SN2-U1Z w	SN2-SU1Z w	SN2-A2Z w	SN2-U1 Liw	SN2-SU1 Liw
Part number	603.3103.023	603.3353.016	603.3803.041	603.3144.024	603.3194.022
Circuit diagram					
⊕ Forced disconnect to IEC 947-5-1 chapter 3					
Za: not galvanically separated contacts					
Zb: galvanically separated contacts					
Slow make & break/snap-action					
Internal seal (iw)/external seal (w)	w	w	w	iw	iw



Voltage	max.	400 V AC	400 V AC	400 V AC	400 V AC	400 V AC
Permanent current	max.	10 A	10 A	10 A	10 A	10 A
In-rush current complies with standards		●	●	●	●	●
IEC 947-5-1 AC 15/DC 13						
Switching frequency	max.	100/min.	100/min.	100/min.	100/min.	100/min.
Mechanical life – number of switching actions		10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
Operating temperature	min./max.	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F	-30 °C/+80 °C -22 °F/+176 °F
Approvals		UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
Weight		0.17 kg/0.37 lb	0.17 kg/0.37 lb	0.17 kg/0.37 lb	0.19 kg/0.42 lb	0.19 kg/0.42 lb
Delivery: ex-stock/built to order		-/●	●/-	-/●	-/●	●/-

All dimensions in mm (inch)

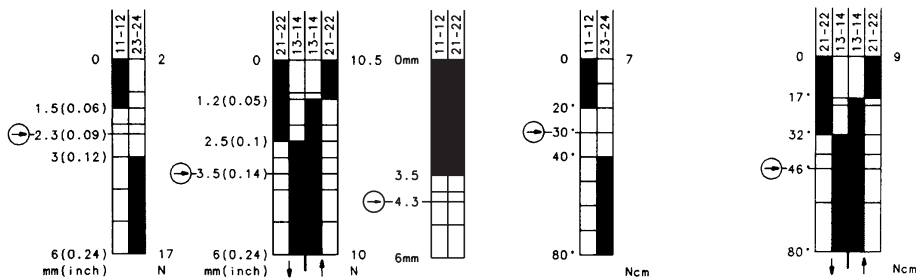




Designation
Part number
 Circuit diagram
 ⊕ Forced disconnect to IEC 947-5-1 chapter 3
 Za: not galvanically separated contacts
 Zb: galvanically separated contacts
 Slow make & break/snap-action
 Internal seal (iw)/external seal (w)

SN2-U1Z Riw	SN2-SU1Z Riw	SN2-A2Z Riw	SN2-U1Z AHS	SN2-SU1Z AHS
603.3117.025	603.3367.017	603.3818.038	603.3135.002	603.3385.018
iw	iw	iw	iw	iw

Contact travel mm (inch) Tol. ± 0.25 mm
 Actuator force N Tol. ± 10%
 Actuator angle ° Tol. ± 3.5°
 Actuator torque Ncm Tol. ± 10%
 On Off



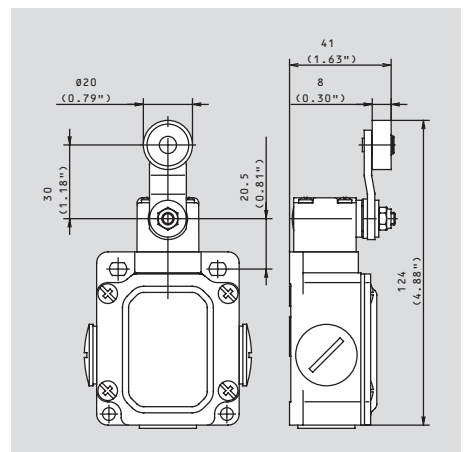
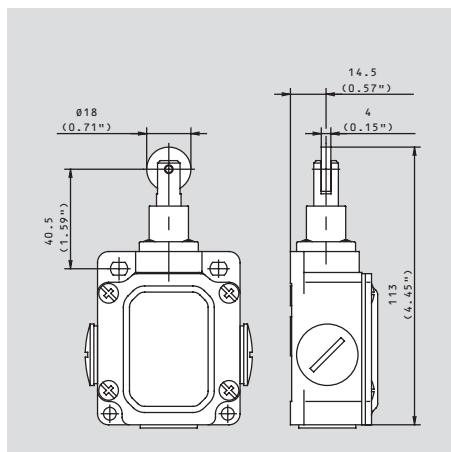
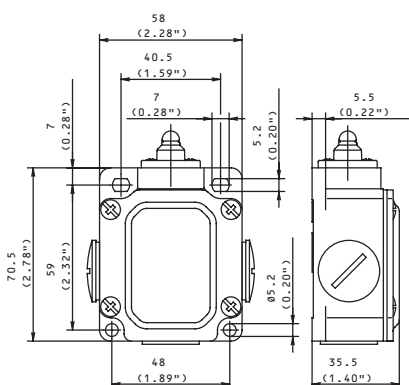
Voltage max.
 Permanent current max.
 In-rush current complies with standards IEC 947-5-1 AC 15/DC 13
 Switching frequency max.
 Mechanical life – number of switching actions
 Operating temperature min./max.

400 V AC	400 V AC	400 V AC	400 V AC	400 V AC
10 A	10 A	10 A	10 A	10 A
●	●	●	●	●
100/min.	100/min.	100/min.	100/min.	100/min.
10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶	10 x 10 ⁶
-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C	-30 °C/+80 °C
-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F	-22 °F/+176 °F

Approvals
 Weight
 Delivery: ex-stock/built to order

UL, CSA	UL, CSA	UL, CSA	UL, CSA	UL, CSA
0.20 kg/0.44 lb	0.20 kg/0.44 lb	0.20 kg/0.44 lb	0.25 kg/0.55 lb	0.25 kg/0.55 lb
-/●	-/●	-/●	●/-	●/-

All dimensions in mm (inch)





SN2-U1Z DGHw
603.3121.005

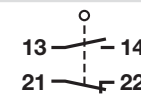
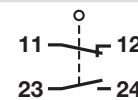
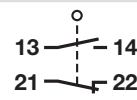
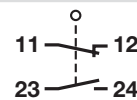
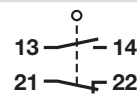
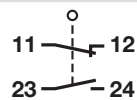
SN2-SU1Z DGHw
603.3371.004

SN2-U1Z DGKw
603.3127.010

SN2-SU1Z DGKw
603.3377.011

SN2-U1Z Hw
603.3121.007

SN2-SU1Z Hw
603.3371.006



⊖ Zb

⊖ Zb

⊖ Zb

⊖ Zb

⊖ Zb

⊖ Zb

●/-

-/●

●/-

-/●

●/-

-/●

W

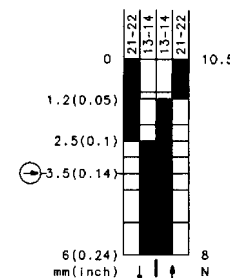
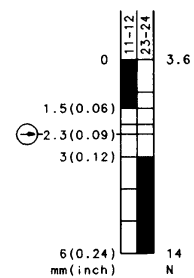
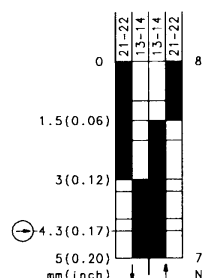
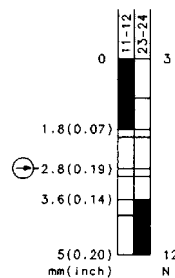
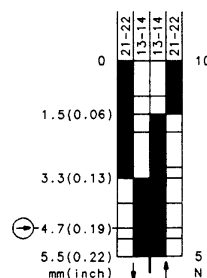
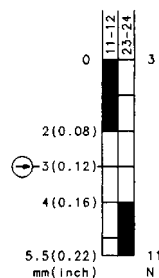
W

W

W

W

W



400 V AC

400 V AC

400 V AC

400 V AC

400 V AC

400 V AC

10 A

10 A

10 A

10 A

10 A

10 A

●

●

●

●

●

●

100/min.

100/min.

100/min.

100/min.

100/min.

100/min.

10 x 10⁶

10 x 10⁶

10 x 10⁶

10 x 10⁶

10 x 10⁶

10 x 10⁶

-30 °C/+80 °C

-30 °C/+80 °C

-30 °C/+80 °C

-30 °C/+80 °C

-30 °C/+80 °C

-30 °C/+80 °C

-22 °F/+176 °F

-22 °F/+176 °F

-22 °F/+176 °F

-22 °F/+176 °F

-22 °F/+176 °F

-22 °F/+176 °F

UL, CSA

UL, CSA

UL, CSA

UL, CSA

UL, CSA

UL, CSA

0.23 kg/0.51 lb

0.23 kg/0.51 lb

0.23 kg/0.51 lb

0.23 kg/0.51 lb

0.22 kg/0.49 lb

0.22 kg/0.49 lb

-/●

●/-

-/●

-/●

●/-

●/-

