

# EX - CONTROL SWITCHES

## With and without Measuring instruments

The GHG 29 control switch series features an easy-to-install and easy-to-connect design. This control switch can be implemented with up to 6 contacts and for 2 to 5 switch positions. Thus, practically all applications in modern control engineering can be covered. Contacts are protected against contact to VBG 4 and have a terminal cross section of up to 6 mm<sup>2</sup> for the connection of single and multi-wire conductors. The rated current of the control switch at 500 V is 16 A. The external contours

of the enclosure facilitate access to the connection terminals and thus allow easy installation. Further installation advantages result from the snap-on/snap-off switch contact block and measuring instrument.

A labyrinth seal in the cover guarantees the degree of protection IP66. The impact-resistant, glass-fibre-reinforced polyester enclosure material is a prerequisite for withstanding even the most rugged industrial operating conditions. The switch can be padlocked using the integrated locking facility.

The locking position is indicated by a red pin. An interchangeable apparatus label and a neutral switch-position label are supplied with each switch. With CEAG installation system, control switches can be installed with high cost-efficiency.

The control switches are also available on request with snap-on metal or moulded-plastic flanges.

- Decisive cost saving with the CEAG mounting system
- Easily accessible connection terminals
- Degree of protection IP66
- Cable connection range up to 6 mm<sup>2</sup>
- Integrated locking facility
- Optional forced contact on request





GHG 293



GHG 292

**Technical data**

**Ex-control switch Typ 292 without and Typ 293 with measuring instrument**

	with GHG 29 Switch	with GHG 28 Switch
Marking accd. to 94/9/EC	Ⓜ II 2 G Ex ed ia IIC T5/T6 Ⓜ II 2 D Ex tD A21 IP66 T80 °C	Ⓜ II 2 G Ex ad ia IIC T5/T6 Ⓜ II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1163	PTB 99 ATEX 1163
IECEX Certificate of Conformity	IECEX BKI 07.0011	IECEX BKI 07.0011
Marking accord. to IECEx	Ex ed ia IIC T5 or T6 Ex tD A21 IP66 T49 °C	Ex ed ia IIC T5 or T6 Ex tD A21 IP66 T49 °C
Permissible ambient temperature	-20 °C up to +40 °C -55 °C up to +47 °C (T6) ... +55 °C (T5) Option	
Rated voltage	max. 500 V	max. 690 V
Rated current	16 A	20 A
Rated current with gold contact points	0.4 A	
Overload range (Type 293 only)	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. indicated 1 : 1.5	
Measuring range (type only 293)	max. 0 - 25 A direct / n.c.	
Accuracy (type 293 only)	Class 2.5	
Movement (type 293 only)	Moving iron	
Rated making-/rated breaking capacity accd. EN 60947-5-1	AC-15: U <sub>0</sub> 230 V / I <sub>0</sub> 6 A U <sub>0</sub> 400 V / I <sub>0</sub> 4 A DC-13: U <sub>0</sub> 24 V / I <sub>0</sub> 2 A U <sub>0</sub> 230 V / I <sub>0</sub> 0.3 A	AC-15: U <sub>0</sub> 230 V / I <sub>0</sub> 8 A U <sub>0</sub> 400 V / I <sub>0</sub> 6 A DC-13: U <sub>0</sub> 24 V / I <sub>0</sub> 6 A U <sub>0</sub> 230 V / I <sub>0</sub> 0.4 A
Connecting terminals	2 x 0.5 - 2.5 mm <sup>2</sup> or 1 x 1.0 - 6.0 mm <sup>2</sup>	
Degree of protection accd. to EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	1 x M25 (Ø 8 - 17 mm) <sup>1) 2)</sup>	
Dimensions (L x W x H)	GHG 292	170 x 110 x 129 mm
	GHG 293	225 x 110 x 129 mm
Weight	GHG 292	approx. 1.10 kg (1 level) approx. 1.25 kg (2 level) approx. 1.40 kg (3 level)
	GHG 293	approx. 1.90 kg (1 level) approx. 2.05 kg (2 level) approx. 2.20 kg (3 level)
Enclosure material	glass-fibre reinforced polyester	
Enclosure colour	black	

<sup>1)</sup> Brass flange for metal entries available on request

<sup>2)</sup> Control switches with direct indicating measuring instruments in the standard version are delivered with 2 looping terminals and PE terminal as well as M32 and M25 cable entries.

**Ex-control switch**



GHG 292



GHG 293

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**Ordering code for control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F**

A	B1	B2	C	D	E	E2	F <sup>1)</sup>
GHG 29_	_	_	_	_	_	_	_

Code	Component	Code
A	Control switch	GHG 292
	Control switch with measuring instrument	GHG 293

Code	Switching system	Code
B1	spring – engaging – spring	4
	engaging – engaging – engaging	5
	engaging – engaging	6
	spring – engaging – engaging	7
	engaging – engaging – spring	8

Code	Contact	silver contact points	Code	silver contact points
B2		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

Other versions as well as gold contact points are available on request.

Code	Inscription (labels)	Code	Inscription (labels)	Code
C	0	I	001	0
	I	II	002	I
	STOP	START	003	II
	HAND	AUTO	004	AUS
	SENKEN	HEBEN	005	AUTO
	REMOTE	LOCAL	006	ÖRTLICH
	I	0	007	AUS
	AUF	BETRIEB	008	HAND
	AUS	EIN	009	OFF
	AUF	EIN	010	ON
	Entriegelt	0	011	MAN
	OUT	OF	012	START
	LOCAL	REMOTE	013	HEBEN
	STOP	0	014	OFF
	HAND	0	015	ON
	AUF	AUS	016	AUS
	HAND	AUS	017	EIN
		ZU		STOP
		AUTO		START
				HEBEN
				OFF
				ON
				MAN
				START
				HEBEN
				OFF
				ON
				AUS
				EIN
				STOP
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				AUS
				EIN
				STOP
				START
				HEBEN
				OFF
				ON



Ordering code for control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F

Code	Padlocking facility	Code
D	none <input type="checkbox"/>	0
	centre <input type="checkbox"/>	1
	left <input type="checkbox"/>	2
	right <input type="checkbox"/>	3

Code	Movement	Code
E1	Direct connection	01
	CT connection 1 /A	02
	Connection 0 - 20/24 mA (scale 0-100% / 120%)	05
	Connection 4 - 20/24 mA (scale 0-100% / 120%)	06
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%)	07
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%)	08

Code	Measuring range/Scale	Code	Measuring range/Scale	Code
E2	0 - 1	002	0 - 75 / 112.5 A	013
	0 - 2.5 / 3.75 A <sup>2)</sup>	003	0 - 100 / 150 A	014
	0 - 5 / 7.5 A <sup>2)</sup>	004	0 - 150 / 225 A	015
	0 - 10 / 15 A <sup>2)</sup>	005	0 - 200 / 300 A	016
	0 - 15 / 22.5 A	006	0 - 250 / 375 A	017
	0 - 20 / 30 A <sup>2)</sup>	008	0 - 300 / 450 A	018
	0 - 30 / 45 A	009	0 - 400 / 600 A	019
	0 - 40 / 60 A	010	0 - 500 / 750 A	020
	0 - 50 / 75 A	011	0 - 600 / 900 A	021
	0 - 60 / 90 A	012	0 - 100% / 150%	031

Code	Built-in components	Description	
F1	Entry type	entry direct in enclosure entry via plastic flange entry via metal flange	GEH FLK FLM
F2	Entry element	only threaded entry screw plug cable entry moulded plastic cable entry moulded metal <sup>2)</sup>	BO SV GK GM <sup>2)</sup>
F3	Size	cable entry with plug M12, M16, M20, M25, M32, M40 Ø21, Ø26	GV M1 Ø ..
F4	Number	number of entries	..

<sup>1)</sup> The code will represent only a selected part of configuration.

<sup>2)</sup> Only available with metal flange

**Ex-control switch**



GHG 292



GHG 293

**4 Example for ordering code (Code 2)**

Control switch with silver contact points, Switching system „5“, Circuit „063“,  
 Labels „HAND-0-AUTO“, can be locked at „0“,  
 Measuring instrument AM72 for CT connection „n/1A“, Scale „0 - 50/75 A“,  
 Cable gland 1 x threaded entry M25 on bottom direct entry.

Code A	B1	B2	C	D	E1	E2	F1	F2	F3	F4
GHG 293 /	5 /	063 /	015 /	1 /	2 /	011 /	GEH /	BO /	M25 /	1

**Ordering details**

Switching system	Circuit	Code	Labels	Order No.
<b>Control switch Typ 292 with silver contact points</b>				
<b>Version with padlocking facility in „0“- or position „right (Code 3)“, cable gland 1 x M25 bottom.</b>				
6		062	0 I	GHG 292 1000 R0001
6		065	0 I	GHG 292 1000 R0002
4		067	0 I	GHG 292 1000 R0003
8		067	0 I	GHG 292 1000 R0004
4		037	0 I	GHG 292 2000 R0002
8		037	0 I	GHG 292 2000 R0003
5		024	I 0 II	GHG 292 2000 R0004
5		023	HAND OFF AUTO	GHG 292 2001 R0001

Switching system	Circuit	Code	Labels	Order No.
<b>Control switch with measuring instrument type 293 with silver contact points</b>				
<b>Version with padlocking facility in „0“- or position „left“, measuring instrument AM 72 for CT connection n/1A, Scale 0 - 100/150 %.</b>				
<b>1 x M32 bottom.</b>				
6		062	0 I	GHG 293 1000 R0001
6		065	0 I	GHG 293 1000 R0002



GHG 293



GHG 292

**Accessories**

**Mounting plate for type 292**

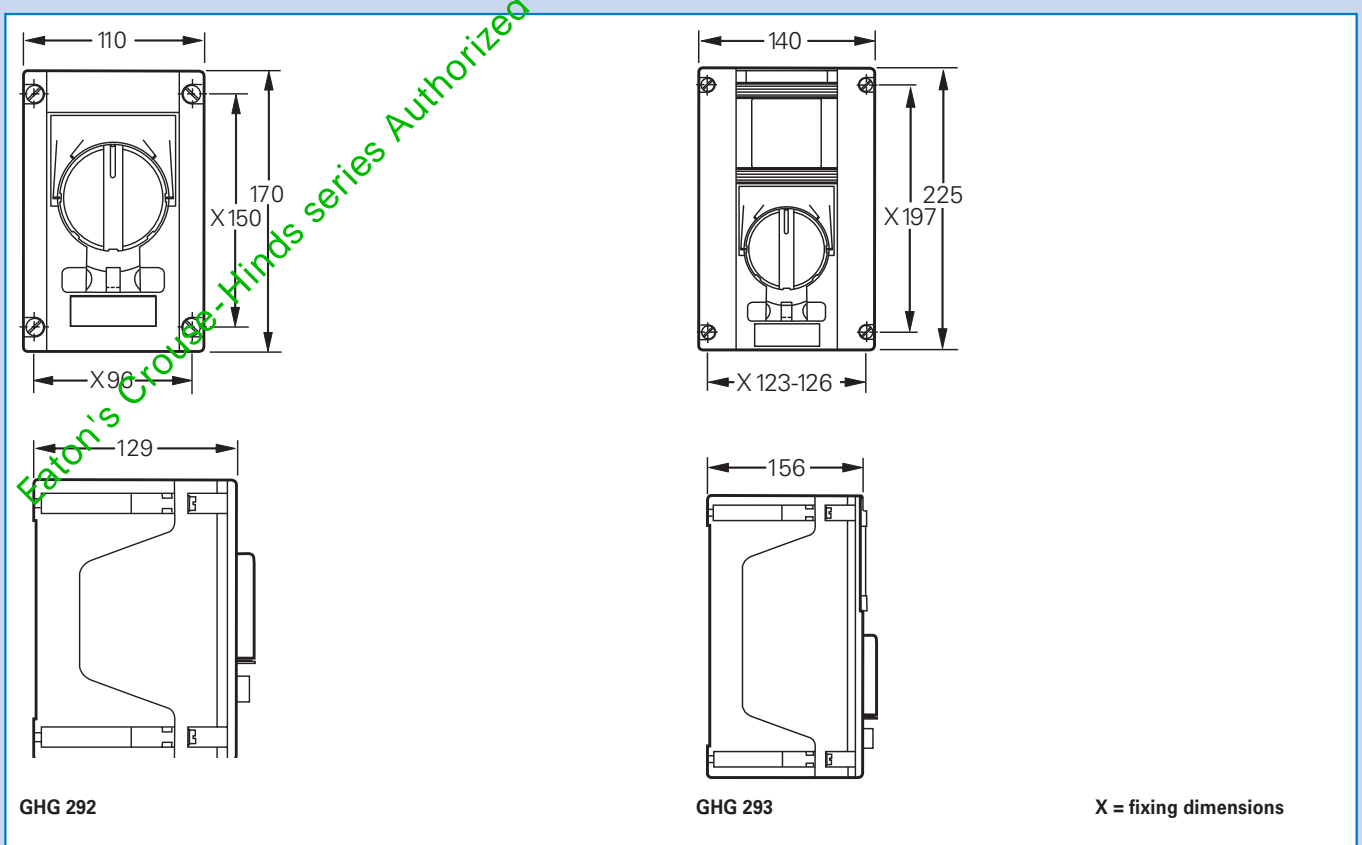
Type	Application	Fixing method	OU	Order No.
Size 2	wall mounting	snap on	1	GHG 610 1953 R0104
Size 2	pipe clamp	snap on	1	GHG 610 1953 R0105
Size 2	trellis-work mounting	snap on	1	GHG 610 1953 R0106
Size 4	wall mounting	snap on *	1	GHG 610 1953 R0128
Size 4	trellis-work mounting	snap on *	1	GHG 610 1953 R0128
Size 4	pipe clamp	snap on *	1	GHG 610 1953 R0132

**Mounting plate for type 293**

Type	Application	Fixing method	OU	Order No.
Size 3	wall mounting	snap on	1	GHG 610 1953 R0118
Size 3	pipe clamp	snap on	1	GHG 610 1953 R0110
Size 3	trellis-work mounting	snap on	1	GHG 610 1953 R0118
Size 5	wall mounting	snap on *	1	GHG 610 1953 R0128
Size 5	trellis-work mounting	snap on *	1	GHG 610 1953 R0128
Size 5	pipe clamp	snap on *	1	GHG 610 1953 R0132
Plug-in fastener for CEAG modules with 5.5 mm and 11 mm fixing elements 4 pieces			10	GHG 610 1953 R0041

\*snap-on with snap-on mounting 5.5 mm

**Dimension drawing**



GHG 292

GHG 293

X = fixing dimensions

Dimensions in mm

# EX - CONTROL SWITCHES

## Light alloy Version for Zone 1

CEAG explosion-protected control switches are made of high-quality cast aluminium-silicon (AlSi). A robust plastic powder coating according to RAL 7031 protects the CEAG control switches against aggressive atmospheres and chemicals.

4 Cover screws as well as all internal and external metal parts are made of stainless steel.

These switches feature an easy-to-install and easy-to-connect design.

The cam switch version allows implementation of many variants, covering almost all applications in modern control engineering.

An optional locking facility allows to secure the switch against unauthorised or inadvertent actuation with a padlock.

**Internationally approved.**



- High mechanical, chemical and thermal resistance
- Impact-resistant plastic powder coating
- Snap-on switch holder



GHG 295

GHG 294

**Technical data**

Ex-control switch Typ 294 without and Typ 295 with measuring instrument		
	with GHG 29 switch	with GHG 28 switch
Marking accd. to 94/9/EC	II 2 G Ex ed ia IIC T5/T6 II 2 D Ex tD A21 IP66 T80 °C	II 2 G Ex ed ia IIC T5/T6 II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1163	PTB 99 ATEX 1163
IECEX Certificate of Conformity	IECEX BKI 07.0011	IECEX BKI 07.0011
Marking accord. to IECEx	Ex ed ia IIC T5 or T6 Ex tD A21 IP66 T49 °C	Ex ed ia IIC T5 or T6 Ex tD A21 IP66 T49 °C
Permissible ambient temperature	-20 °C up to +40 °C -55 °C up to +47 °C (T6) ... +55 °C (T5) option	
Rated voltage	max. 500 V	max. 690 V
Rated current	16 A	20 A
Rated current with gold contact points	0.4 A	
Overload range (type 293 only)	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. indicated 1 : 1.5	
Measuring range (type 293 only)	max. 0 - 25 A direct / n.c.	
Accuracy (type 293 only)	Class 2.5	
Circuit (type 293 only)	Moving iron	
Rated making-/rated breaking capacity accd. EN 60947-5-1	AC-15: U <sub>e</sub> 230 V / I <sub>e</sub> 6 A U <sub>e</sub> 400 V / I <sub>e</sub> 4 A DC-13: U <sub>e</sub> 24 V / I <sub>e</sub> 2 A U <sub>e</sub> 230 V / I <sub>e</sub> 0.3 A	AC-15: U <sub>e</sub> 230 V / I <sub>e</sub> 8 A U <sub>e</sub> 400 V / I <sub>e</sub> 6 A DC-13: U <sub>e</sub> 24 V / I <sub>e</sub> 6 A U <sub>e</sub> 230 V / I <sub>e</sub> 0.4 A
Connecting terminals	2 x 0.5 - 2.5 mm <sup>2</sup> or 1 x 1.0 - 6.0 mm <sup>2</sup>	
Degree of protection accd. to EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	1 x M25 (Ø 8 - 17 mm) <sup>1) 2)</sup>	
Dimensions (L x W x H)	GHG 294	GHG 295
	170 x 130 x 129 mm	260 x 160 x 129 mm
Weight	GHG 294	GHG 295
	approx. 1.90 kg (1 level)	approx. 2.05 kg (2 level)
		approx. 2.90 kg (1 level)
		approx. 3.05 kg (2 level)
Enclosure material	high quality cast aluminium-silicon (AlSi)	
Enclosure colour	grey RAL 7031	

<sup>1)</sup> Brass flange for metal entries available on request

<sup>2)</sup> Control switches with direct indicating measuring instruments in the standard version are delivered with 2 looping terminals and PE terminal as well as M32 and M25 cable entries.

Eaton's Crouse-Hinds series Authorized distributor - Kunshan beiyuan electric co.,ltd-csr@ksbyel.com





Ordering code for control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F

Code	Padlocking facility	Code
D	none <input type="checkbox"/>	0
	centre <input type="checkbox"/>	1
	left <input type="checkbox"/>	2
	right <input type="checkbox"/>	3

Code	Movement	Code
E1	direct connection	01
	CT connection 1 /A	02
	connection 0 - 20/24 mA (Scale 0-100% / 120%)	05
	connection 4 - 20/24 mA (Scale 0-100% / 120%)	06
	moving-coil connection 0 - 20/24 mA (Scale 0-100% / 120%)	07
	moving-coil connection 4 - 20/24 mA (Scale 0-100% / 120%)	08

Code	Measuring range/scale	Code	Measuring range/Scale	Code
E2	0 - 1	002	0 - 75 / 112.5 A	013
	0 - 2.5 / 3.75 A <sup>2)</sup>	003	0 - 100 / 150 A	014
	0 - 5 / 7.5 A <sup>2)</sup>	004	0 - 150 / 225 A	015
	0 - 10 / 15 A <sup>2)</sup>	005	0 - 200 / 300 A	016
	0 - 15 / 22.5 A	006	0 - 250 / 375 A	017
	0 - 20 / 30 A <sup>2)</sup>	008	0 - 300 / 450 A	018
	0 - 30 / 45 A	009	0 - 400 / 600 A	019
	0 - 40 / 60 A	010	0 - 500 / 750 A	020
	0 - 50 / 75 A	011	0 - 600 / 900 A	021
	0 - 60 / 90 A	012	0 - 100% / 150%	031

Code	Built-in components	Description	Code
F1	entry type	Entry direct in enclosure	GEH
		Entry via plastic flange	FLK
		Entry via metal flange	FLM
F2	entry element	only threaded entry	BO
		Screw plug	SV
		Cable entry moulded plastic	GK
		Cable entry moulded metal <sup>2)</sup>	GM <sup>2)</sup>
F3	size	Cable entry with plug	GV
		M12, M16, M20, M25, M32, M40	M1 Ø ..
		Ø21, Ø26	
F4	number	Number of entries	..

<sup>1)</sup> The code will represent only a selected part of configuration..

<sup>2)</sup> Only available with metal flange

**Ex-control switch**



GHG 294



GHG 295

**4 Example for ordering code (Code 2)**

Control switch with silver contact points, Switching system „5“, Circuit „063“,  
 Labels „HAND-0-AUTO“, can be locked „0“,  
 Measuring instrument AM72 for CT connection „n/1A“, Scale „0 - 50/75 A“,  
 Cable entry 1 x threaded entry M25 on bottom direct entry.

Code A	B1	B2	C	D	E1	E2	F1	F2	F3	F4
GHG 295 /	5 /	063 /	015 /	1 /	2 /	011 /	GEH /	BO /	M25 /	1

**Ordering details**

Switching system	Circuit	Code	Labels	Order No.
<b>Control switch type 294 with silver contact points</b>				
<b>Version with locking facility in „0“- or position „right (Code 3)“, cable gland 1 x M25 bottom.</b>				
6		062	0	GHG 294 1000 R0001
6		065	0	GHG 294 1000 R0002
4		067	0	GHG 294 1000 R0003
8		064	0	GHG 294 1000 R0004
4		037	0	GHG 294 2000 R0002
8		037	0	GHG 294 2000 R0003
5		024	I 0 II	GHG 294 2000 R0004

Switching system	Circuit	Code	Labels	Order No.
<b>Control switch with measuring instrument type 295 with silver contact points</b>				
<b>Version with padlocking facility in „0“- or position „left“, measuring instrument AM 72 for CT connection n/1A, Scale 0 - 100/150 %.</b>				
<b>1 x M32 bottom.</b>				
6		062	0	GHG 295 1000 R0001
6		065	0	GHG 295 1000 R0002

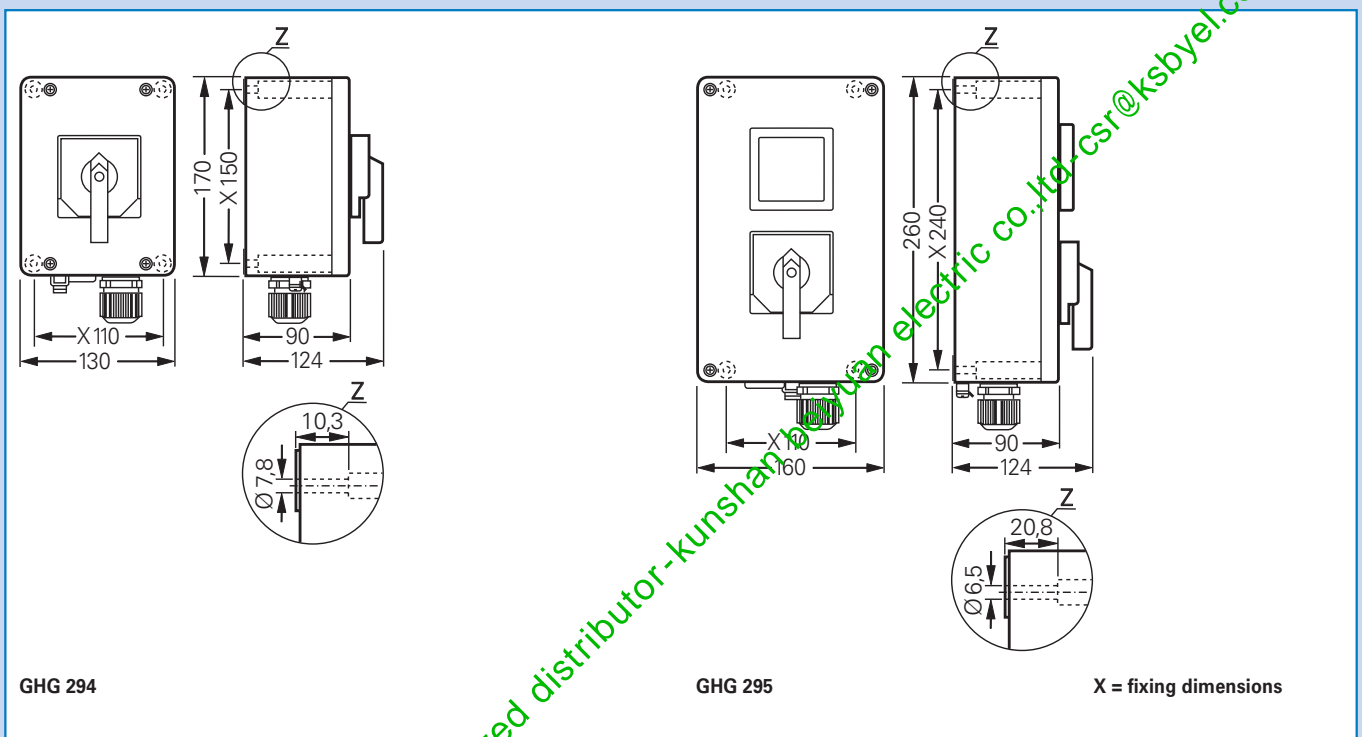


GHG 295



GHG 294

Dimension drawing



Eaton's Crouse-Hinds series Authorized distributor - kunshan electric co., ltd - csr@ksbyel.com