4C GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

UL/cUL listed
Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zones 1 and 2,
(A) Ex de IIB + H_2 T6
Cl. II, Div. 1, Groups E, F, G (cUL)

PTB ATEX CERTIFIED 3117
Ex de IIC, T6,
Zones 1 and 2
Ex de IIC,T6 Zones 21 and 22
IP 66, NEMA 4X

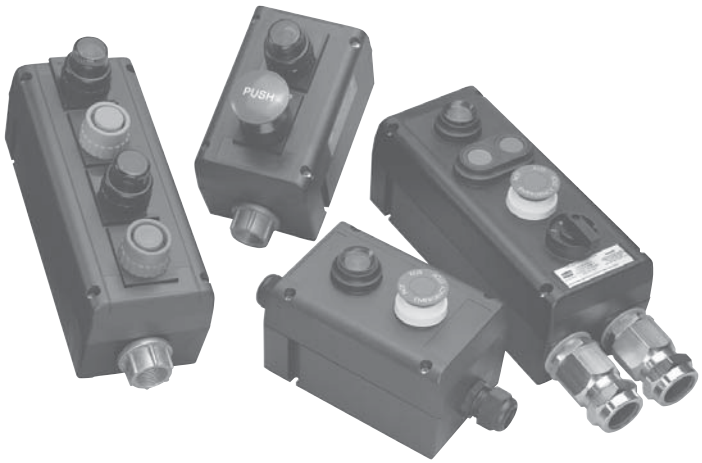
Applications:

Control stations are used as a remote means of:

- Motor control
- Visual indication of equipment performance
- On-off control of circuits
- Circuit selection

Common applications include:

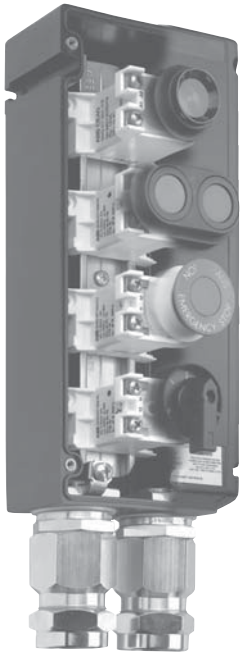
- Areas which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
- For installation at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist



GHG43 Nonmetallic Control Stations

Features:

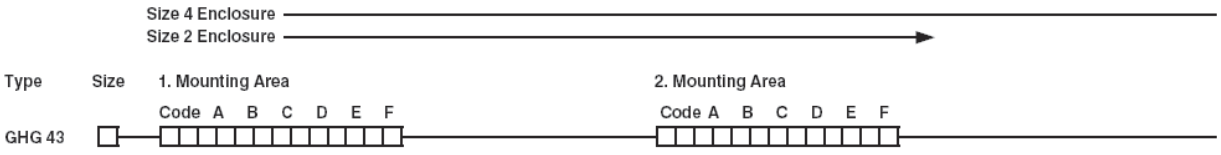
- NEMA 4X, IP66 enclosure with formed-in-place gasket
- Available with all operators: indicator lights, potentiometers, control switches, pushbuttons, terminal blocks and meters
- Base-mounted contact blocks
- Easy change-out components snap in place on DIN rail
- Enclosure meets UL 94-VO. Also available in anti-static Ex e materials
- Inserts for mounting DIN rails
- Available with a maximum of 2 entries - top and bottom for conduit fittings or cable glands
- Suitable for universal mounting plates on pipes, conduit, wall or channels
- Mounting dimensions data molded on back
- Captive, corrosion-resistant cover screws
- Built-in mounting slots for wall installation



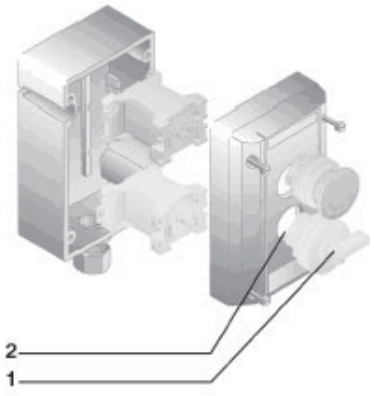
Certifications and Compliances:

- UL/cUL Listed
- Class I, Div. 2, Groups A, B, C, D
- Class II, Div. 1, Groups E, F, G (cUL)
- Class I, Zones 1 and 2, Ex de IIB + H2, T6
- AEx de IIB + H2, T6
- Type 3, 4, 4X; IP66
- CENELEC-PTB 00 ATEX 3117
- Ex de IIC, T6, Zones 1 and 2, IP66

Nonmetallic or 316L Stainless Steel Corrosion Resistant



GHG43 2 - Size 2 Enclosure



Mounting Area*

Pushbutton DRT

Code A: D R T O | B | C | D

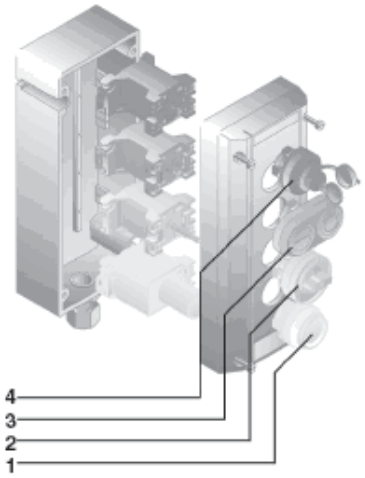
Codes see page 559

Double Pushbutton

Code A: D D T O | B | C | D | E

Codes see page 559

GHG43 4 - Size 4 Enclosure



Mounting Area*

Key Operated Pushbutton

Code A: S L T O | B | C

Codes see page 559

Mushroom-Head Pushbutton

Code A: S G T | B | C | D | E | F

Codes see page 560

Signal Lamp

Code A: S I L | B | C

Codes see page 560

‡For a GHG43 control station with 316L stainless steel enclosure, add suffix "S860" to end of catalog number.
*Unoccupied spaces must be filled in with KLM for correct positioning of devices.

GHG43 Series Control Stations

How to build a GHG43 Series Catalog Number‡

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Potentiometer

Code A P O T | B ☐

Codes see page 561

Measuring Instrument

Code A M 7 2 | B ☐ | C ☐☐

Codes see page 562
Requires 2 spaces

Switch

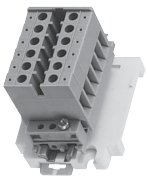
Code A S C T | B ☐ | C ☐☐ | D ☐

Codes see pages 563–564

Control Switch Ex 23 10A

Code A E X 2 3 | B ☐☐ | C ☐☐ | D ☐ | E ☐

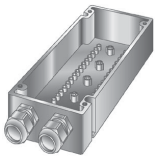
Codes see pages 563–564
Requires 2 spaces



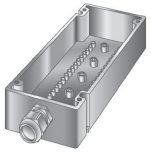
Terminals and cover blanking plug

Code A K L M | B ☐☐

Code see page 561



Two entries



One entry

Cable Entries

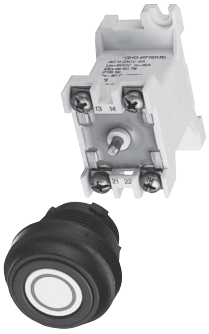
NPT	Metric
0 0 No entries	0 0 No entries
1 2	0 1
2 x ½" Myers Hub, STGK1 Zinc Gland plate	2 x M25 Plastic Cable gland M25 Blanking plug
1 3	0 2
2 x ¾" Myers Hub, STGK2 Zinc Gland plate (Stainless Steel Control Stations only)	2 x M20 Threaded entries Gland plate
2 2	0 3
2 x ½" Myers Hub, SSTGK1 Stainless steel Gland plate	2 x M25 Threaded entries Gland plate
2 3	0 4
2 x ¾" Myers Hub, SSTGK2 Stainless steel Gland plate (Stainless Steel Control Stations only)	1 x M32 Plastic Cable gland
2 6	2 7
1 x ¾" Myers Hub, STGK2, Zone 1 Gland plate	1 x M25 Threaded Entry, Blanking plug and Gland plate
3 0	2 9
1 x ½" Myers Hub, STGK1, Zone 1 Gland plate	2 x M25 Threaded Entry, 1 blanking plug and Gland plate
3 1	3 3
1 x ½" Myers Hub, SSTGK1 Stainless st. Gland plate	1 x M20 Threaded entry Blanking plug and Gland plate
3 2	3 4
1 x ¾" Myers Hub, SSTGK2 Stainless st. Gland plate	1 x ¾" Myers Hub SSTGK2 stainless steel, Gland plate

‡For a GHG43 control station with 316L stainless steel enclosure, add suffix "S860" to end of catalog number.
*Unoccupied spaces must be filled in with KLM for correct positioning of devices.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Pushbuttons:

- Used for logic controls in hazardous areas
- Single or double units
- Used with all operators
- Base mounting

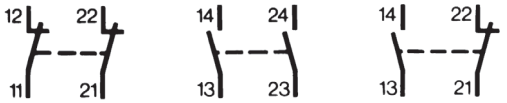


	Pushbutton
Type of Protection	Ex de IIC T6
Certificate of Conformity	PTB No. Ex-87.B.1007U
Approvals	PTB, UL, cUL
Rated Voltage	Up to 400V
Rated Current	NEC/CEC 10A IEC 16 A
Terminal Wiring	2 x 2.5mm² / 14AWG
Mechanical and Electrical Life	>10⁵ Operations

See page 564 for explanation of contact symbols.

Pushbutton DRT

Code	D	R	T	O								
	A				B		C		D			



Contact System								
Code B	13				14		15	

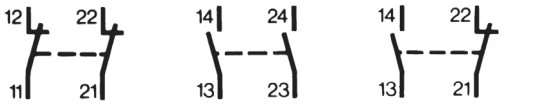
Inscription	**ALL ***	**0**	**I**	**II**	**Stop**	**Start**	**Special-Text On Order †**
Code C	01	02	03	04	06	07	99

Lockout see page 565

Code D (leave blank if no lockout required)

Double Pushbutton DDTO

Code	D	D	T	O										
	A				B		C		D		E			



Contact System								
Code B	43				44		45	

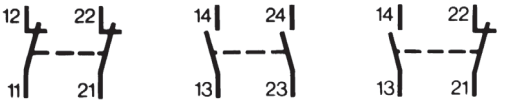
Inscription	**ALL ***	**0**	**I**	**II**	**Stop**	**Start**	**Special-Text on Order †**
Code C, D Left/Right	01	02	03	04	06	07	99

Lockout see page 565

Code E (leave blank if no lockout required)

Key-Operated Pushbutton SLT

Code	S	L	T	O				
	A				B		C	



Contact System								
Code B	23				24		25	

Pushbutton	**Key**							
Not Depressed	Lockable	Yes	Yes	Yes	No	No	Yes
	Key Removable	Yes	Yes	No	No	Yes	Yes
Depressed	Lockable	Yes	No	Yes	Yes	Auto	Yes
	Key Removable	No	No	Yes	Yes	Yes	Yes
Code C		**1**	**2**	**3**	**4**	**5**	**6**

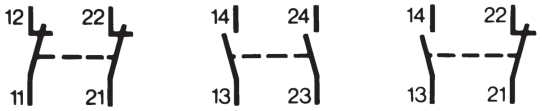
* 01 - Includes the following discs - Start, stop, I, O, and red, green, yellow, white and black blank discs.
† For Marking Guide for Pushbuttons see page 565.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Mushroom-Head Pushbutton SGT

Code	S G T					
	A	B	C	D	E	F

Contact System



Code B	53	54	55
Color of Pushbutton	**Red**	**Yellow**	**Black Actuator**
Code C	1	2	3
Function	**Spring Return**	**Maintained**	**Key Release**
Code D	1	2	3
Inscription	**Stop**	**Start**	**Emergency Stop**
Code E	06	07	11

Lockout
see page 565
Code F (leave blank if no lockout required)

Signal Lamp

- Used for positive feedback indication
- High intensity with special reflector and optical lens
- Accomodates most input voltages
- Base mounting

	Lamp
Type of Protection	Ex de IIC T6
Certificate of Conformity	PTB No. Ex-88.B.2106U
Approvals	PTB, UL, cUL
Lamp Life	>100,000 Hours (11.5 Years)
Rated Voltages	Up to 240VAC, 50 / 60 Hz Up to 110VDC
Rated Current	Max. 15 mA
Power Consumption	<1.2W
Terminal Wiring	2 x 2.5mm² / 14AWG
Colors	Red, Green, Yellow, Clear & Blue

Signal Lamp SIL

Code	S I L			
	A	B	C	

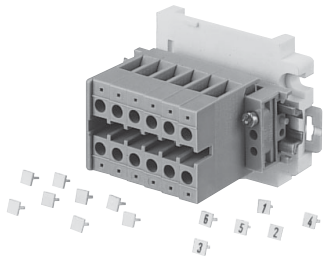
Colored Lens Cover	White	Yellow	Red	1 pkg white, yellow, red, green	Green	Blue
Code B	1	2	3	4	5	6
Voltage		**20-250VAC/DC**		**10-33VAC/DC**		
Code C		01		31		

EATON CROUSE-HINDS SERIES

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Terminal Blocks

- Terminal block for easy field connections
- Base mounting



	Terminal Blocks
Type of Protection	Ex e II
Certificate of Conformity	PTB No. Ex-88.B.3112U
Rated Voltages	Up to 400V
Rated Current	23A
Conductor Size	4mm² / 12AWG

Terminals and Cover Plugs KLM

	K	L	M		
Code		**A**			**B**

	6 Terminals 2 x 4 mm²	Undrilled Cover (No Terminals)
Code B	61	00

Potentiometers

- Used to adjust resistance to vary motor speed or light levels
- Scale 0 to 100%
- Base mounting

	Potentiometers
Type of Protection	Ex de IIC T6
Certificate of Conformity	PTB No. Ex-87.B.1007U
Approvals	PTB, UL, cUL
Rated Voltages	>250V
Power Consumption	1.0W
Resistance	100–10,000W
Angle of Rotation	270°
Scale	0–100%
Connection Terminals	2 x 2.5mm² / 14AWG

Potentiometer POT

	P	O	T	
Code		**A**		**B**

Power Consumption	**1W**			
Resistance W	1,000	2,200	4,700	10,000
Code B	4	7	5	6

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Ammeters

- Used to measure motor current draw for efficiencies and maintenance
- Slide in scales to accommodate any amperage range
- Red indicator for quick visual indication to compare set points and actual values

	Ammeters
Type of Protection	Ex e II T6
Certificate of Conformity	PTB No. Ex-87.B.2016U
Approvals	PTB, UL, cUL
Movement	Moving iron (core)
Accuracy	2.5% of range (class 2.5)
Measuring Range	0-16A direct, C.T. n/1 A
Operating Position	Vertical
Scale	Interchangeable for C.T. n/1 A
Zero Adjustment	At instrument
Terminal Wiring	2 x 2.5 mm² / 14 AWG
Rated Current Marking	Red indicator

Ammeter Measuring Instrument AM 72*

	M	7	2			
Code		**A**		**B**	**C**	

Movement	**Direct**	**n/1 A**	**0 - 2 mA**	**4-20 mA**
Code B	1	2	3	6

Movements 0-20 mA and 4-20 mA are only available with 0 - 100 / 120% scale

Direct Measurement		**Interchangeable Scale for C.T. n/1A**					
Code C	**Scale**	**Code C**	**Scale**	**Code C**	**Scale**	**Code C**	**Scale**
02	0 -1/1.5A	02	0 -1/1.5A	09	0 - 30/45A	16	0 - 200/300A
03	0 - 2.5/3.75A	03	0 - 2.5/3.75A	10	0 - 40/60A	17	0 - 250/375A
04	0 -5/7.5A	04	0 -5/7.5A	11	0 - 50/75A	18	0 - 300/450A
05	0 - 10/15A	05	0 - 10/15A	12	0 - 60/90A	19	0 - 400/600A
07	0 - 16/24A	06	0 -15/22.5A	13	0 -75/112.5A	20	0 - 500/750A
		08	0 - 20/30A	14	0 - 100/150A	21	0 - 600/900A
				15	0 - 150/225A	22	0 - 100/150A

* Requires 2 spaces.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Rotary Control Switches

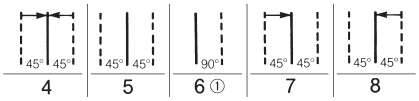
- Used for selectable operations (i.e. Hand–Off–Auto)
- 2 independent contacts
- Available in any contact configuration
- Spring return or maintained position
- Available with lockout positions

	SCT	Ex 23
Type of Protection	Ex de IIC T6	Ex de IIC T6
Certificate of Conformity	Ex.87.B.1007U	PTB no. Ex-88.B.1047U
Approvals	PTB, UL, cUL	PTB, UL, cUL
Rated Votage	400 V	Up to 500 V
Rated Current	NEC 10 A IEC 16 A	NEC 10 A IEC 16 A
Terminal Wiring	2 x 2.5mm² / 14 AWG	2 x 2.5mm² / 14 AWG
Mechanical Life	>10⁵ Operations	>10⁵ Operations
Electrical Life	>10⁵ Operations	>10⁵ Operations
Switching Capacity	AC II: 20V/6A 400V/4A DC II: 24V/6A 60V/0.8A 110V/.5A 220V/.2A	AC I: 500G/10A AC II: 230V/6A 500V/6A DC II: 24V/6A 48V/4A 60V/0.8A 110V/0.5A 220V/0.4A

Rotary Control Switch SCT

Code	A	B	C	D
	S C T			

Switch Mechanism

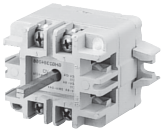


4 5 6 ① 7 8

Code B

Code C	Inscription		Code C	Inscription		
01	0	I	07	I	0	II
03	STOP	START	13	LOCAL	REMOTE	AUTO
04	HAND	AUTO	14	STOP	0	START
06	REMOTE	LOCAL	15	HAND	0	AUTO
29	OFF	ON	99	Special – text to be given on order		

Same as SCT above except up to 4 independent contacts



Contact System

Code D 1 2 3 4 5 6

Rotary Control Switch Ex 23*

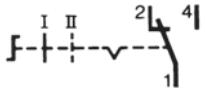
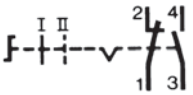
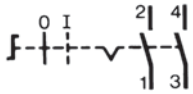
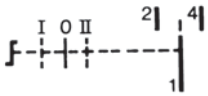
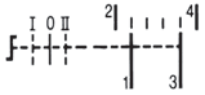
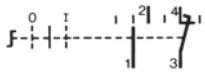
Code	A	B	C	D	E
	E x 2 3				

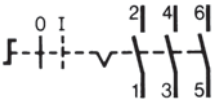
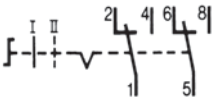
Code B	Inscription		
01	0	I	
03	STOP	START	
04	HAND	AUTO	
06	remote	local	
07	I	0	
13	LOCAL	REMOTE	AUTO
14	STOP	0	START
23	OFF	0	ON
24	HAND	OFF	AUTO
27	START	STOP	
29	OFF	ON	
32	ON	OFF	
99	Special – text to be given on order		

* Requires 2 spaces in cover.

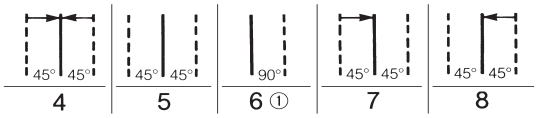
GHG43 Series Control Stations

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Code C	Contact System	Type
00		2 Position
01		2 Position
02		2 Position
03		Single Pole Changeover
05		HOA
07		3 Position Single Level

Code C	Contact System	Type
09		3 Position
10		3 Position
12		3 Position
13		2 Position
14		2 Position
15		3 Position Double Pole Changeover

Switched Mechanism Code D



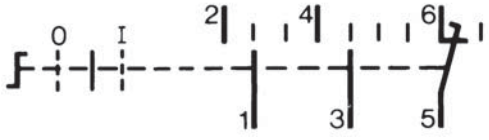
Padlocking Facility

Code E

Contact Configurations

Normally Closed			**Normally Open**
Normally Closed Extended Over 2 Positions			**Normally Open Early Make/Late Break**
Change-Over Break Before Make			**Change-Over Make Before Break**

Example of Switch Type 10



This example is the switch type 10 Stop-Run-Stop. The switch has 3 positions – the normal position is center and can be switched left or right. An arrow (→←) indicates spring return. (See codes for switch mechanism). Contacts 1–2 only close in the Stop position. Contacts 3–4 close only in the *Start* position. Contacts 5–6 are normally closed and remain closed when switched to the Start position and open when switched to the Stop position.

Nonmetallic or 316L Stainless Steel Corrosion Resistant

Lockouts for DRTO Pushbuttons

X
Code D
Shroud Cover For
Pushbutton
Y-Lockout with bolt and chain

Z
Code D
Padlocking Fire Alarm
Cover For Pushbutton

Lockouts for DDTO Double Pushbuttons

X
Code ED
Padlocking Cover For
Double Pushbutton
Without Hole

Z
Code E
Padlocking Cover For
Double Pushbutton
With Hole

Lockouts for SGT Mushroom-Head Pushbuttons

X
Code F
Padlocking Cover For
Emergency Stop Pushbutton

Z
Code F
Padlocking Cover For
Emergency Stop Pushbutton
With Bolt & Chain
Not permitted in IEC hazardous
locations.

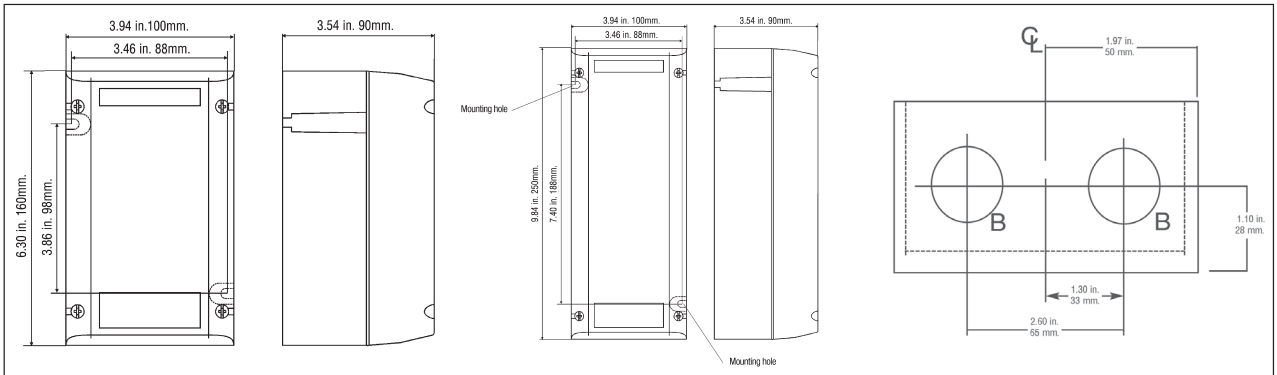
Marking Guide For Pushbuttons

Special Text

Marking Required	Standard Abbreviation	Actual Marking on Disc
Acknowledge	AK	ACK
Alarm	AM	ALARM
Automatic	AU	AUTO
Close	CL	CLOSE
Down	DN	DOWN
Fast	FS	FAST
Forward	FW	FWD
Hand	HN	HAND
High	HI	HIGH
In	IN	IN
Jog	JG	JOG
Local	LC	LOCAL
Lower	LO	LOWER
Maintain	MT	MAINT
Manual	MN	MANUAL
Normal	NR	NORMAL
Off	OF	OFF
On	ON	ON
Open	OP	OPEN
Out	OT	OUT
Raise	RA	RAISE
Remote	RM	REMOTE
Reset	RS	RESET
Reverse	RV	REV
Run	RN	RUN
Slow	SL	SLOW
Test	TT	TEST
Trip	TP	TRIP
Up	UP	UP

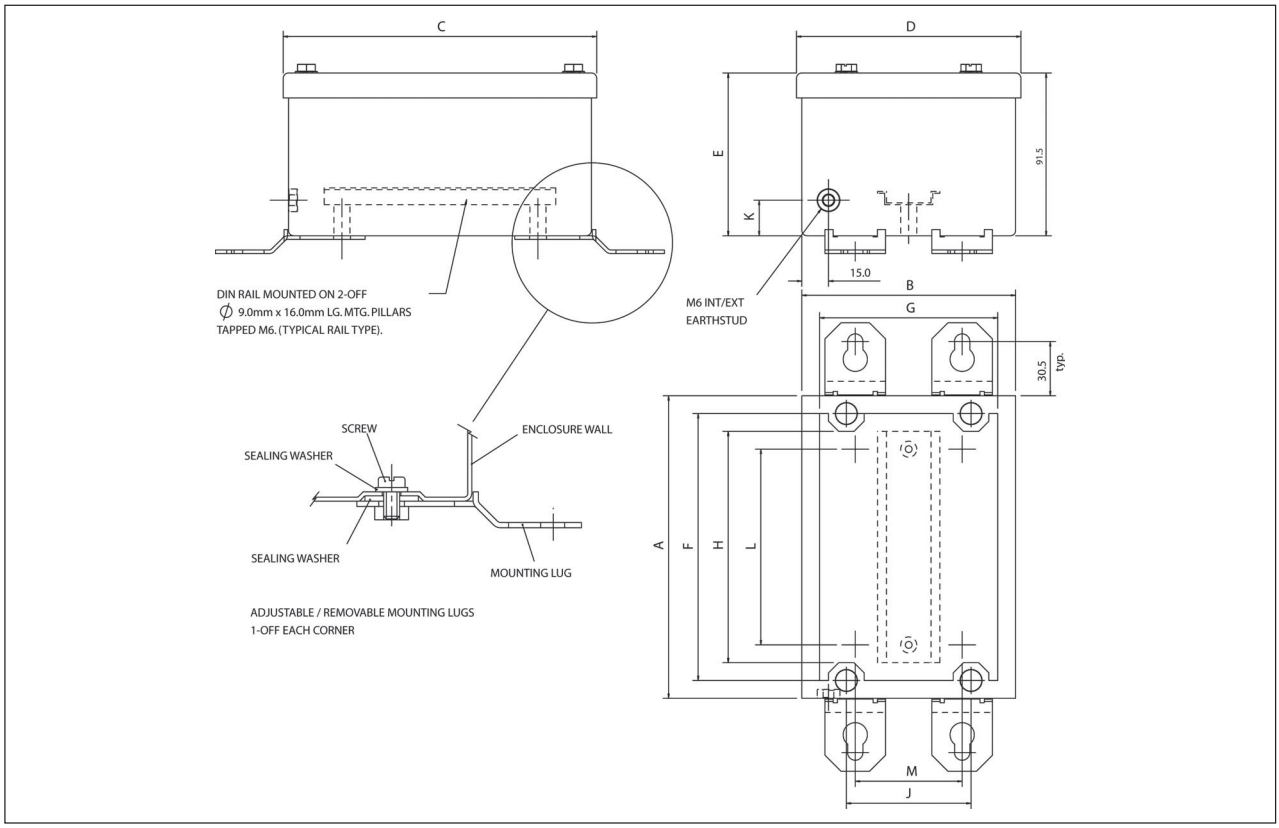
Nonmetallic or 316L Stainless Steel Corrosion Resistant

GHG43 Nonmetallic Control Stations



GHG43 Size 2 Nonmetallic | GHG43 Size 4 Nonmetallic | End View of Back Box

GHG43 Stainless Steel Control Stations



Box Type	Dimension (inches)											
	A	B	C	D	E	F	G	H	J	K	L	M
1 Operator Control Station	4.72	4.72	4.96	4.96	3.60	3.94	3.94	3.15	2.76	0.79	2.36	2.36
2 Operator Control Station	6.69	4.72	6.93	4.96	3.60	5.90	3.94	5.12	2.76	0.79	4.33	2.36
3 Operator Control Station	8.66	4.72	8.90	4.96	3.60	7.87	3.94	7.09	2.76	0.79	6.30	2.36
4 Operator Control Station	10.63	4.72	10.87	4.96	3.60	9.84	3.94	9.06	2.76	0.79	8.27	2.36

