

Craig & Derricott have been at the forefront of electrical control gear design and manufacture for more than 70 years. The i-push range has been designed and developed to incorporate safety, functionality and ease of installation incorporating suggestions from re-sellers and end-users. The 'i-push' range contains many unique features:-

Heavy & Normal Duty Actuators

The 'i-push' range incorporates two distinctly different component series - Heavy Duty & Normal duty.



The Heavy Duty (HD) actuators are manufactured using metal based components and are therefore suitable for use in arduous environments.

The Normal Duty (ND) actuators are manufacture from high strength moulding materials and are suitable for most applications.

(All control stations incorporating Heavy Duty actuators include an 'H' in the first part of the catalogue number i.e. EMSH/T/MG/CO) You will also see an 'HD' in the title bar above each relevant item.

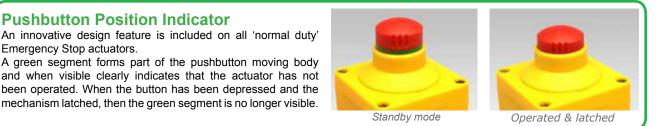
Mechanical Endurance:-

Emergency Stop actuators.

All HD assemblies with the exception of Emergency Stops HD Emergency Stop (Twist-to-reset & pull-to-reset) All ND assemblies

Pushbutton Position Indicator

1x10⁶ operations 0.25x10⁶ operations 1x10⁶ operations





The 'i-push' Normal Duty range includes actuators with an integral guard.

This will give the control station protection against accidental operation.

Security lid fixings



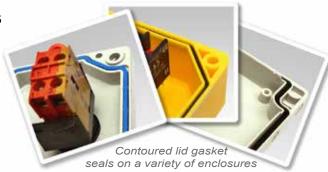
The stainless steel and flush mounting enclosures are supplied as standard with security 'tamper proof' style lid fixings.

Ingress Protection

All i-push control stations are sealed to a minimum of IP65 and suitable for indoor and outdoor applications.



A flexible shroud between the actuator and the enclosure lid assists in meeting the IP69K requirements



To withstand the high pressure water cleaning in certain environments Craig and Derricott has developed a stainless steel control station that complies with IP69K water test. See page 55.





Flap Covers



Padlocking flap cover fitted to an 'E. Stop' control station

The Heavy Duty 'i-push' assemblies include actuators with optional flap cover protection, these are manufactured using die-cast aluminium components and can be supplied in locking or non-locking types.

- The *non-locking* flap cover to provide additional degree of protection against accidental operation of the actuator.
- The *locking* flap cover includes a padlocking feature for up to three padlocks that prevents access to the actuator.

We recommend using padlocks with a standard shackle diameter of Ø6.4mm

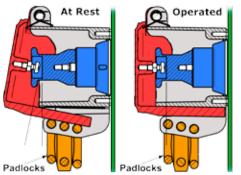
Emergency Stop stations fitted with Flap Covers are used solely to prevent unauthorised resetting. In an emergency situation, having to lift a flap cover to gain access to the pushbutton is not permissible. Should an emergency occur the flap cover itself is used as the primary 'Stop' actuator.



When the flap cover is struck this operates the pushbutton actuator. Once operated the pushbutton will latch and will need resetting by hand before the process can resume.

It's here where the flap cover adds an extra level of safety.

In the normal running condition the flap cover can be fitted with a padlock(s) whilst still allowing the



normal emergency operation. After an emergency operation of the flap cover the padlock will prevent any unauthorised access to reset the actuator.



Blue 'Safety' Plunger

MTOSFE

Safety contacts are available for Emergency Stop control stations incorporating 'Clip-in' type contact blocks. Here a pair of contact blocks are sandwiched together and the contacts connected in series. When inserted the Red plunger will be operated by the pushbutton actuator, the blue plunger will retain a N/C contact when the block is pushed fully home and clicked in-place.

Should for any reason the block become loose, the contact under the blue plunger will open and initiate a stop function.



Bespoke Assemblies



Although this catalogue contains a wealth of options, there will always be the case where a bespoke assembly is the only answer to fulfill a precise requirement. Craig & Derricott has over 60 years experience in designing products to meet a specific need, so why not call our Sales team who will be pleased to discuss your requirements.





IP65



General Description

Emergency Stop stations are designed and installed primarily to provide machine operators with a means of shutting down in the event of a dangerous occurrence taking place.



Electrical machines often require Emergency Stops, which are required to meet specific requirements and International standards are applied to the design, testing and installation of such devices. (IEC/EN60204, BS EN ISO 13850, IEC 60947-5-1, IEC 60947-5-5).

The following pages contain the following options:-

Enclosure formats - PA / PC Plastic, Glass Filled Polyester, Diecast Aluminium, Stainless Steel, Sheet Steel & Flush Mounting.
 'Reset' Methods - Protection Devices - Protection Devices - Raised Shroud & Flap Cover

Moulded Plastic

Catalogue N	IO. EMS/TNS/PS/CO ND	Catalogue No. EMS/T/PS/CO ND
 Actuator Legend Contacts Dims. Material 	Emergency Stop, twist-to-reset. None 1N/C+1N/O (ET-10A) 'D1' PA	 Actuator Emergency Stop twist-to-reset. Legend 'Emergency Stop' yellow anti-lock collar. Contacts 1N/C+1N/O (ET-10A) Dims. 'D1' Material PA
Catalogue N	NO. EMS/TS/PS/CO ND	Catalogue No. EMS/K/PS/CO ND
 Actuator Guard Legend Contacts Dims. Material 	Emergency Stop twist-to-reset. Raised shroud None 1N/C+1N/O (ET-10A) 'D1' PA	 Actuator Emergency Stop key reset (supplied with 2 keys) Legend 'Emergency Stop' yellow anti-lock collar. Contacts 1N/C+1N/O (ET-10A) Dims. 'D1' Material PA
Catalogue N	No. EMS/T/P/NC ND	Catalogue No. EMS/TS/P/NC ND
 Actuator Legend Contacts Dims. Material 	Emergency Stop, twist-to-reset. Circular yellow 1N/C (MT-16A) 'D2' PC	 Actuator Emergency Stop twist-to-reset. Legend Circular yellow Guard Raised shroud Contacts 1N/C (MT-16A) Dims. 'D2' Material PC
Catalogue N	No. EMS/K/P/NC ND	Catalogue No. EMS/KS/P/NC ND
 Actuator Legend Contacts Dims. Material 	Emergency Stop key reset. (Supplied with 2 keys) 'Emergency Stop' yellow anti-lock collar. 1N/C (MT-16A) 'D2' PC	 Actuator Emergency Stop key reset. (Supplied with 2 keys) Guard Raised shroud Legend Circular yellow Contacts 1N/C (MT-16A) Dims. 'D2' Material PC

Dims Page <u>66</u>



Die-Cast Aluminium

Die-Cast Aluminium	IP65
Catalogue No.EMS/T/MG/NCND• ActuatorEmergency Stop twist-to-reset.• LegendPrinted collar• Contacts1N/C (MT-16A)• Dims.'D5'	Catalogue No.EMS/T/MGS/COND• ActuatorEmergency Stop, twist-to-reset.• LegendPrinted collar• Contacts1N/C + 1N/O (ET-10A)• Dims.'DO'
Catalogue No.EMS/K/MG/NCND• ActuatorEmergency Stop, key reset.(Supplied with 2 keys)• LegendPrinted collar• Contacts1N/C (MT-16A)• Dims.'D5'	Catalogue No.EMS/TS/MG/NCND• ActuatorEmergency Stop, twist-to-reset.ND• GuardRaised shroud• LegendCircular yellow• Contacts1N/C (MT-16A)• Dims.'D5'
Catalogue No.EMS/KS/MG/NCND• ActuatorEmergency Stop, key reset.(Supplied with 2 keys)• GuardRaised shroud• LegendCircular yellow• Contacts1N/C (MT-16A)• Dims.'D5'	Catalogue No.EMSH/P/MR/COHD•ActuatorMushroom, pull-to-reset.•LegendCircular yellow.•FinishRed•Contacts1N/C+1N/O (MT-16A)•Dims.'D5'
Catalogue No.EMSH/T/MG/COHD• ActuatorMushroom, twist-to-reset.• LegendCircular yellow• Contacts1N/C+1N/O (MT-16A)• Dims.'D5'	Catalogue No.EMSH/P/MG/COHD• ActuatorMushroom, pull-to-reset.• LegendCircular yellow.• Contacts1N/C+1N/O (MT-16A)• Dims.'D5'
Catalogue No.EMSH/K/MR/COHD• ActuatorMushroom, key reset. (Supplied with 2 x DC800 key, differs available)Image: Contact and the sector of the secto	Catalogue No. EMSH/K/MG/CO HD • Actuator Mushroom, key reset. (Supplied with 2 x DC800 keys, differs available) • • Legend Circular yellow. • Contacts 1N/C+1N/O (MT-16A) • Dims. 'D5'
Catalogue No.EMSH/P/F1/MG/COHD• Actuator • Guard • Legend • Contacts • Dims.Mushroom, pull-to-reset. Padlocking flap cover Printed flap cover 	Catalogue No. EMSH/P/F1/MR/CO HD • Actuator Mushroom, pull-to-reset. HD • Guard Padlocking flap cover HD • Finish Red HD • Legend Printed flap cover HD • Contacts 1N/O+1N/C (MT-16A) HD • Dims. 'D5' HD

Emergency Stop



EMSH/P/GP/CO

EMSH/P/F1/GP/CO

Mushroom, pull-to-reset.

Mushroom, pull-to-reset.

Padlocking flap cover

1N/O+1N/C (MT-16A)

Printed flap cover

1N/C+1N/O (MT-16A)

Circular yellow

'D4'

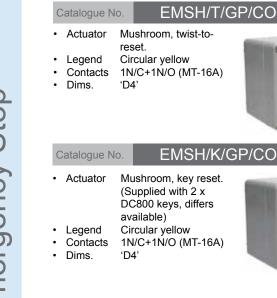
'D4'

Glass Filled Polyester

IP65

HD

HD



Stain	less	Steel
olum	1000	0.001

Catalogue No.	EMS/T/SS/	NC ND	Catalogue N	o. EMS/K/SS/NC	ND
LegendFinishLid fixings	Emergency Stop twist-to-reset. Printed collar Brushed Security style screws. 1N/C (MT-16A) 'D9'		 Actuator Lid fixings Finish Legend Contacts Dims. 	Emergency Stop, key reset.(Supplied with 2 keys) Security style screws. Brushed Printed collar 1N/C (MT-16A) 'D9'	

HD

HD

Catalogue No.

Actuator

Legend

Dims.

Contacts

Catalogue No.

Actuator

Guard

Dims.

Legend

Contacts

Stainless Steel

EMS/T/SS/NC69 Catalogue No.

- Actuator **Emergency Stop**
- twist-to-reset. Yellow circular.
- Legend IP69K.
- Sealing
- Finish
- Lid fixings Security style.
- Contacts 1N/C+safety contact (MTOSFE) 'D10'

Brushed

Dims.



Sealed to withstand the forces associated with pressure washers. Tested to withstand a hose delivering water at a pressure between 80-100 bar at a temperature of 80°C.

The combination of a stainless steel enclosure and sealing to IP69K make these items ideally suited to environments where strict hygiene cleaning routines are enforced.

Supplied with external fixing feet for vertical or horizontal mounting.



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IP65

IP69K

ND



IP65

Flush Mounting

As supplied there is an IP65 seal between the Pushbutton and the face plate. To maintain this seal when installing the complete assembly the onus is upon the installer to use a continuous bead of flexible sealant to provide an effective seal between the rear of the face plate and what may be an uneven mounting surface.

Catalogue N	Io. EMS/T/F/CO	ND	Catalogue N	•. EMS/K/F/C	O ND
 Actuator Legend Lid fixings Contacts Dims. 	Emergency Stop twist-to-reset. Printed Collar Security style 1N/C+1N/O (ET-10A) 'D11'		 Actuator Legend Lid fixings Contacts Dims. 	Emergency Stop, key reset.(Supplied with 2 keys) Printed collar Security style 1N/C+1N/O (ET-10A) 'D11'	
Catalogue N	EMSH/T/F/CO	HD	Catalogue N	•. EMSH/P/F/	CO HD
 Actuator Legend Lid fixings Contacts Dims. 	Mushroom, twist-to-reset. Yellow circular. Security style 1N/C+1N/O (MT-16A) 'D11'	STOP.	 Actuator Legend Lid fixings Contacts Dims. 	Mushroom, pull-to-reset. Yellow circular. Security style 1N/C+1N/O (MT-16A) 'D11'	STOP STOP
Catalogue N	No. EMSH/K/F/CO	HD	Catalogue N	o. EMSH/P/F1	/F/CO HD
 Actuator Legend Contacts Dims. 	Mushroom, key reset. (Supplied with 2 x DC800 keys, differs available) Circular yellow. 1N/C+1N/O (MT-16A) 'D11'	STOP -	 Actuator Guard Legend Contacts Dims. 	Mushroom, pull-to-reset. Padlocking flap cover Pad printed flap cover 1N/O+1N/C (MT-16A) 'D11'	DERIOR STOP

Sheet Steel

	Catalogue N	0.	EMS/T/FS/NC
•	Actuator		nergency Stop, st-to-reset
•	Fitting	Pa	ttress box or trucking as
•	Contacts		N/C with 'faston' terminals onobloc-5A)
•	Dims.	(IVI 'D8	3'



.

Can be installed in dado trunking as shown.



IP65

Emergency Stop

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Page

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Emergency Power Off (EPO)

General Description

'Emergency Power Off' or 'EPO' control stations can be used where the safety requirements associated with Emergency Stops are not required. Typical uses would include:-· School workshops

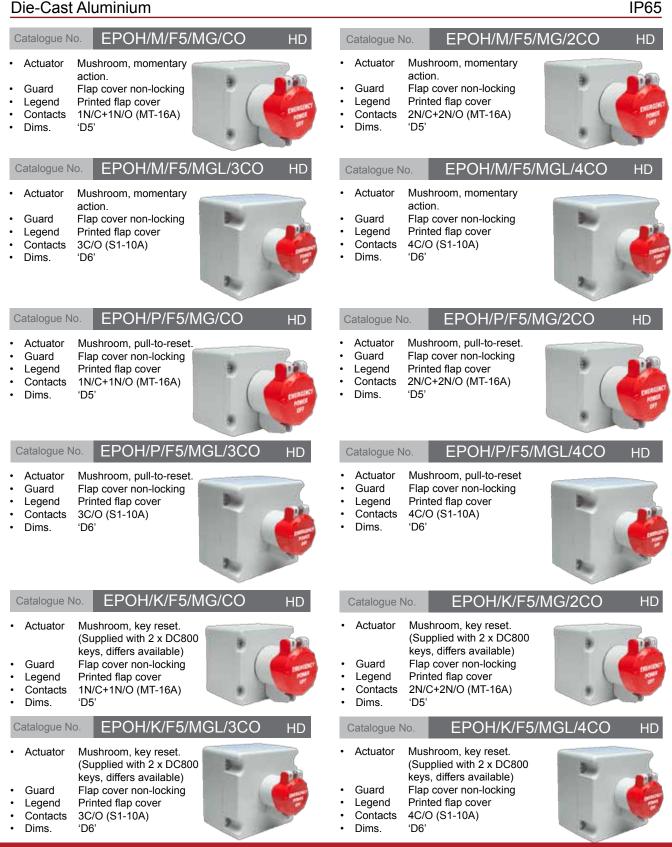
· Computer suites

· Water treatment plants

· Service and maintenance

All items are housed in robust die-cast aluminium enclosures fitted with flap covers to prevent accidental operation.

Die-Cast Aluminium





Dims

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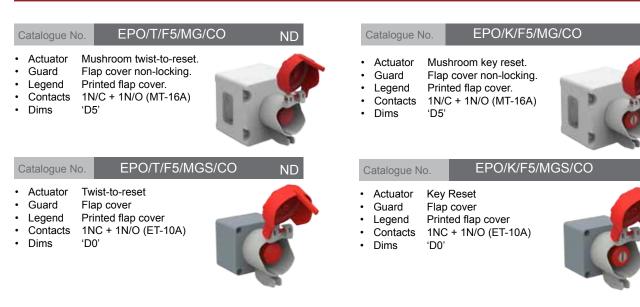
IP65

ND

ND

IP65

Die-Cast Aluminium continued



EPO - Emergency Stop/Start

General Description

'Emergency Stops' are often situated adjacent to the associated 'Start' button. In these assemblies the two functions are combined in a single enclosure.

All of the stayput 'Emergency Stop' buttons meet the latest safety requirements.

The flap cover option operates the stayput actuator when the cover is pressed. Padlocks can be inserted to prevent an unauthorised reset. Enclosures in polycarbonate and die-cast aluminium provide a choice dependent upon the environment.

Die-Cast Aluminium

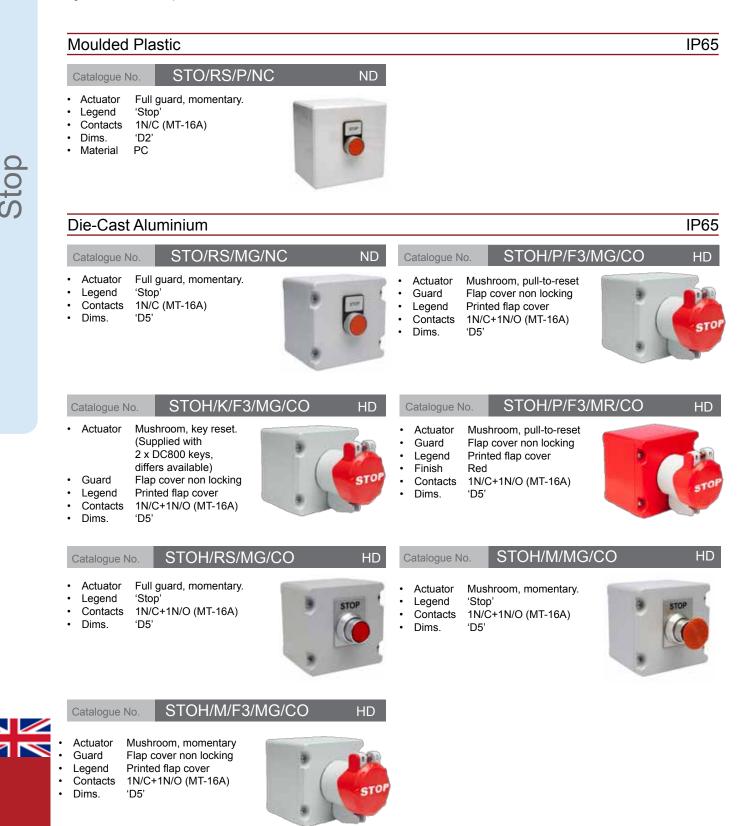




General Description

Individual 'Stop' stations have been designed for use in many applications.

The range includes alternatives for both surface and flush mounting with options of flap covers which add an extra degree of security against inadvertent operation.









IP65

IP65

Glass Filled Polyester

Catalogue No. STOH/M/F3/GP/CO HD	Catalogue No. STOH/P/F3/GP/CO HD
 Actuator Mushroom, momentary Guard Flap cover non-locking Legend Printed flap cover Contacts 1N/C+1N/O (MT-16A) Dims. 'D4' 	 Actuator Mushroom, pull-to-reset Guard Flap cover non-locking Legend Printed flap cover Contacts 1N/C+1N/O (MT-16A) Dims. 'D4'
Catalogue No. STOH/K/F3/GP/CO HD	
 Actuator Mushroom, key reset. (Supplied with 2 x DC800 keys, differs available) Guard Flap cover non-locking Legend Printed flap cover Contacts 1N/C+1N/O (MT-16A) Dims. 'D4' 	
Stainless Steel	IP65
Catalogue No. STO/RS/SS/NC ND	

- Actuator
- Full guard, momentary. Legend 'Stop' 1N/C (MT-16A) 'D9'
- Contacts
- Dims.



Flush Mounting

As supplied there is an IP65 seal between the Pushbutton and the face plate. To maintain this seal when installing the complete assembly the onus is upon the installer to use a continuous bead of flexible sealant to provide an effective seal between the rear of the face plate and what may be an uneven mounting surface.



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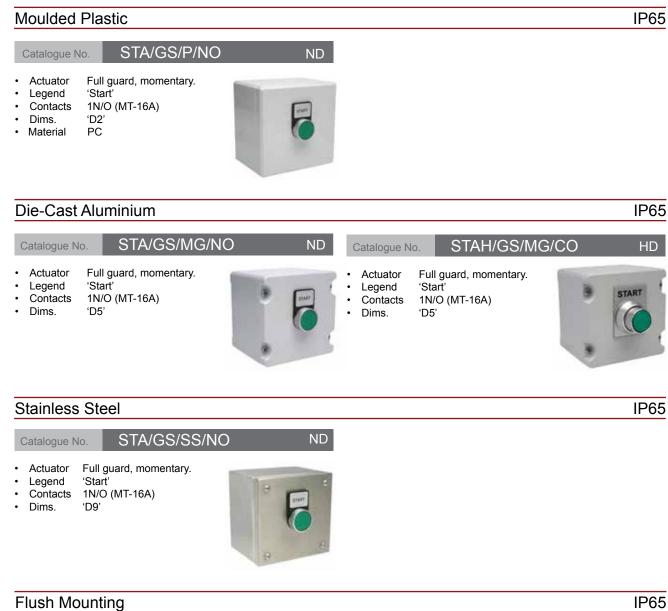
60

Dims



General Description

Individual 'Start' stations have been designed for use in many applications.



As supplied there is an IP65 seal between the Pushbutton and the face plate. To maintain this seal when installing the complete assembly the onus is upon the installer to use a continuous bead of flexible sealant to provide an effective seal between the rear of the face plate and what may be an uneven mounting surface.

STA/GS/F/NO Catalogue No. ND

- Actuator Full guard, momentary.
- Legend 'Start' 1N/O (ET-10A) Contacts
 - Dims. 'D11'



Start





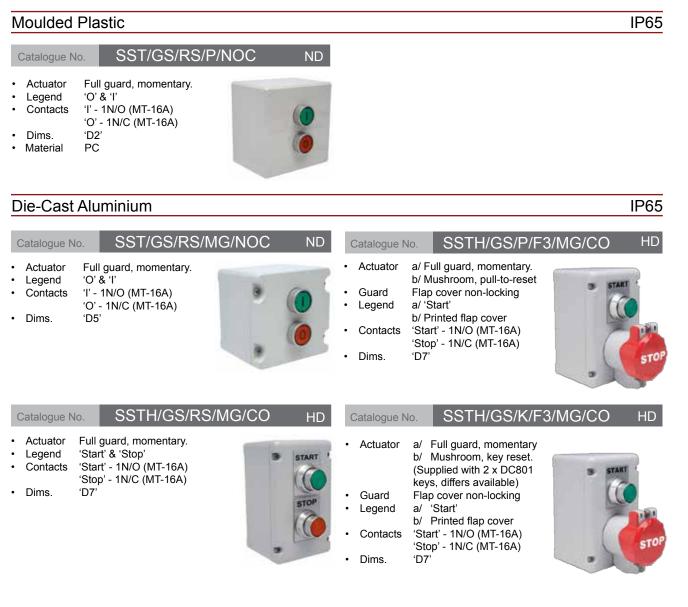




General Description

'Start/Stop' control stations are the most convenient way of providing simple local control for a variety of applications. When inserted into a control scheme they provide the local interface with which machinery can be easily be controlled.

The assembled stations are offered in various enclosure materials which are designed to match applications in terms of mechanical protection.



Stainless Steel



SST/GS/RS/SS/NOC

- Actuator Full guard, momentary. 'O' & 'I'
- Legend
 - Contacts 'l' - 1N/O (MT-16A) 'O' - 1N/C (MT-16A) 'D9
- Dims.



ND



IP65

Stop/Start





General Description

In the UK from July 2006 the onus was placed upon companies to ensure that all equipment within their organisations is suitable for the environment in which it is being used. This was aimed primarily at areas where there may be a possibility of a combustible atmosphere being present, even for short periods i.e. less than 10 hours/year.

People normally associate such atmospheres as being gases, mists or vapours. However there are many industries where a nonconductive dust mixed with air in the right proportion can become potentially explosive. It is these areas where the Craig & Derricott ATEX Group II (Zone 22 equipment) can be used to help you comply with Health & Safety regulations. All listed items show here have been certified to the appropriate international standards for explosive atmospheres.

Certification data:	Ex II 3D, EX tD A22 IP65 T	
Complies in part or full with:	,	81-1-1, BS EN 60529, BS EN 60947-3,
Die-Cast Aluminium		IP65
Catalogue No. STOH/RS/	MG/COZ HD	Catalogue No. STAH/GS/MG/COZ HD
 Actuator Full guard, momentary. Legend 'Stop' Contacts 1N/O+1N/C (MT-16A) Dims. 'D2' 	STOP	 Actuator Full guard, momentary. Legend 'Start' Contacts 1N/O+1N/C (MT-16A) Dims. 'D5'
Catalogue No. SSTH/GS/	RS/MG/COZ HD	Catalogue No. EMSH/T/MG/COZ HD
 Actuator Full guard, momentary. Legend 'Start' & 'Stop' Contacts 'Start' - 1N/O (MT-16A) 'Stop' - 1N/C (MT-16A) Dims. 'D7' 	START	 Actuator Mushroom, twist-to-reset Legend Circular yellow Contacts 1N/O+1N/C (MT-16A) Dims. 'D5'
Catalogue No. STOH/M/W	IG/COZ HD	Catalogue No. ESSH/GS/P/MG/COZ HD
 Actuator Mushroom, momentary. Legend 'Stop' Contacts 1N/O+1N/C (MT-16A) Dims. 'D5' 	B STOP	 Actuator a/ Start, momentary b/ Emergency stop, pull-to-reset. Legend a/ 'Start' b/ Circular yellow Contacts 'Start' - 1N/O (MT-16A) 'Em. Stop' - 1N/C (MT-16A) Dims. 'D7'
Catalogue No. SSTH/GS/P/F	1/MG/COZ HD	Catalogue No. EMSH/P/F1/MG/COZ HD
 Actuator a/ Start, momentary b/ Emergency stop, pull-to-reset. Guard Padlocking flap cover Legend a/ 'Start' b/ Printed flap cover Contacts 'Start' - 1N/O (MT-16A) 'Stop' - 1N/C (MT-16A) Dims. 'D7' 		 Actuator Emergency stop, pull-to-reset. Start, momentary Guard Padlocking flap cover Legend Printed flap cover Contacts 1N/O+1N/C (MT-16A) Dims. 'D5'
Catalogue No. EMSH/P/MG/	COZ HD	Catalogue No. EMSH/K/MG/COZ HD
 Actuator Mushroom, pull-to-reset. Legend Circular yellow Contacts 1N/C+1N/O (MT-16A) Dims. 'D5' 	STOP.	 Actuator Mushroom, key reset. (Supplied with 2 x DC800 keys, differs available) Legend Circular yellow Contacts 1N/C+1N/O (MT-16A) Dims. 'D5'







Bespoke Assemblies

All of the items shown in this catalogue are of a specified design, and although the variations are extensive, there is always going to be the case where only a specially constructed assembly will satisfy an exact requirement. Craig & Derricott have been offering a bespoke control station design and build service for over 70 years and in that time have supplied over a thousand specially constructed assemblies to industries across the world.

If you are interested in discussing a specific arrangement then please give our technical sales staff a call.

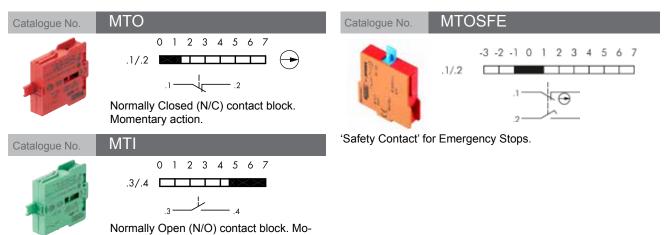


Accessories

Contact blocks are available to replace or extend the arrangements supplied as standard.

'MT' Series

The 'MT' series are designed as 'clip-in' modules which can be supplied in N/O, N/C & safety formats. The clip-in housing allows for a total of three blocks per actuator.



Electrical Ratings - BS EN 60947-5-1

mentary action.

	a.c	d.c
Utilisation Category	AC15 A600	DC13 Q600
Rated Insulation Voltage (Ui)	600V	600V
Rated Operational Voltage (Ue)	250V / 440V	440V / 250V / 125V / 60V / 24V
Rated Operational Current (le)	3A / 1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking Capacity	10I _e	1.11 _e
Continuous thermal current (Ith)	16A	16A



'ET' Series

Electrical Ratings - BS EN 60947-5-1

	a.c	d.c
Utilisation Category	AC15	DC13
Rated Insulation Voltage (Ui)	400V	400V
Rated Operational Voltage (Ue)	400V / 250V	400V / 250V / 125V / 60V / 24V
Rated Operational Current (le)	3A / 5A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking Capacity	10le	1.1le
Continuous thermal current (Ith)	10A	10A

'Monobloc' Series

The Monobloc assembly is designed for use in very restricted space. The contacts are assembled in the base of the actuator and cannot be supplied separately. To replace the contacts will require a new complete actuator.



Contact Block, Momentary Action 2 N/C

Electrical Ratings - BS EN 60947-5-1	
	a.c
Utilisation Category	AC15 B300
Rated Insulation Voltage (Ui)	250V
Rated Operational Voltage (Ue)	240V / 120V
Rated Operational Current (le)	5A
Continuous thermal current (Ith)	10A

'S1' Series

The S1 contact block is designed to be stacked in pairs side-by-side and then back-to-back making a total on four changeover blocks on one Heavy Duty actuator. Three or four blocks will require extended fixing screws (U42)

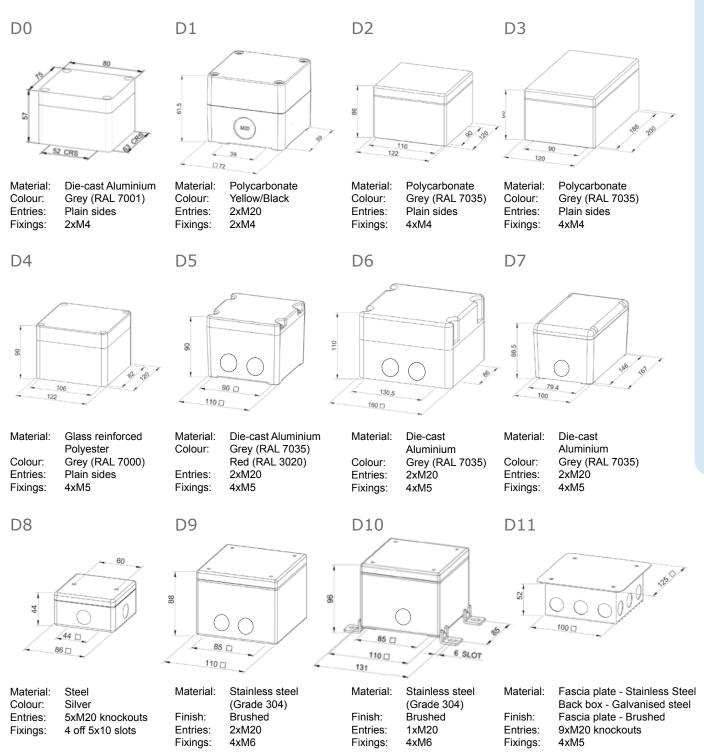
atalogue No. S1		Electrical Ratings - BS EN 60947-5-	1
er Ø			a.c
	NC NC	Utilisation Category	AC15
A ª do		Rated Insulation Voltage (Ui)	660V
AP 3 8	NO NO	Rated Operational Voltage (Ue)	400V
A TO		Rated Operational Current (le)	5A
Image shows 2 off S1 blocks	Contact Block, Momentary Action C/O	Continuous thermal current (Ith)	10A

Assembly screw kit to enable 3 or 4 'S1' contacts to be mounted on a single Heavy Duty actuator.





Dims as shown are for the enclosures only used in the various assemblies. Projections will vary depending upon the actuators incorporated in the design - see foot of page.



Actuator Projections

Normal Duty Actuators (ND)	Emergency Stop (incl. guards) Start/Stop	42mm 11mm
Heavy Duty Actuators (HD)	Mushroom (Twist or pull to reset) Mushroom (Key reset) Full guard (Start/Stop) Flap Cover	43mm 51mm 30mm 66mm

Jims