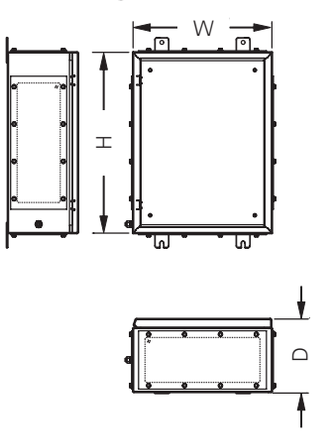
1 Technical datas

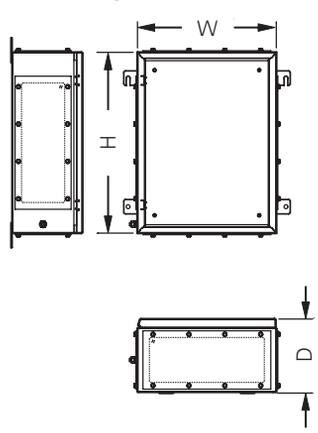
ATEX type examination certificate:			PTB 02 ATEX 1014		
Marking acc. to 94/9/EC and standard:					
	EN 60079-0		Ⓔx II 2 G Ex e ia/ib m IIC T6 /T5 /T4		
			Ⓔx II 2 D Ex tD A21 IP66 T 80°C ,T 95°C		
IECEx type examination certificate:			IECEx BKI 08.0004		
Marking:					
	IEC60079-0		Ex e ia/ib m IIC T6 /T5 /T4		
			Ex tD A21 IP66 T 80°C ,T 95°C		
Rated voltage:			up to 690 V		
The max rated voltage is dependent on the max rated Voltage of the built-in terminals					
Rated current:			up to max. 500 A, see table at enclosure cover		
Permissible ambient temperature and storage temperature in original packaging: depending on used seals:					
	polymer seal		-40° C to +55° C		
	silicon seal		-55° C to +55° C		
	PUR seal		-20 C to +40° C		
Protection category acc EC/IEC 60529:			IP66 (catalogue version)		
Insulation class to EN/IEC 61140:			II		
Terminals:			acc. to customer´s specification and as certified		
			max. up to 240 mm²		
Cable entries:			acc. to customer´s specification and as certified		
Test torques:					
	Cover screws		4,0 Nm		
	Mounting screws for flange plates		2,0 Nm		
	High Torque-screws		2,8 Nm		
Enclosure sizes:			width (w)	height (H)	depth (D)
Ex-Cell "I" XCL		smallest	300 mm	152 mm	127 mm
		biggest	1000 mm	800 mm	300 mm
	special sizes	XCL 14010040	1400 mm	1000 mm	400 mm
		XCL 16012035	1600 mm	1200 mm	350 mm
Ex-Cell "T" XCL		smallest	150 mm	150 mm	80 mm
		biggest	510 mm	250 mm	160 mm

Dimension drawing terminal boxes Ex-Cell XCL

Fixing vertical



Fixing horizontal



2 Legends

Warning
This symbol warns of a serious hazard. Failure to observe this warning may result in death or the destruction of property.

Caution
This symbol warns of a possible failure. Failure to observe this caution may result in the total failure of the device or the system or plant to which it is connected.

Note

This symbol highlights important information

2.1 Safety instructions

These instructions are intended for qualified electricians in accordance with IEC/EN 60079-14.

The stainless steel terminal boxes are not suitable for Zone 0 and tone 20 hazardous areas.

The temperature class at gas respectively the surface temperature at dust and explosion group marked on the terminal boxes have to be observed.

The requirements of the IEC/EN 60079-31 regarding excessive dust deposits and temperature shall be taken into consideration by user.

Prior to putting the terminal boxes into operation, they shall be checked in accordance with the instructions as per section 6.

Before initial operation, any foreign matter shall be removed from the terminal boxes.

The national safety and accident prevention regulations and the following safety guidelines instructions that, like this text, are set in italics shall be observed!

3 Conformity with standards

The terminal boxes have been designed, manufactured and tested according to the state of the art and to DIN EN ISO 9001:2008 and EN ISO/IEC 80079-34:2011.

They meet the requirements of the standards specified in the EC-Declaration of conformity, enclosed separately.

4 Field of application

The stainless steel terminal boxes are suitable for use in Zone 1 and 2 as well as in Zones 21 and 22 hazardous areas acc. to IEC/EN 60079-10-1 and IEC/EN 60079-10-2!

The enclosure materials employed, including the exterior metal parts, are made of high-quality materials which ensure a corrosion protection and resistance to chemical sub-stances corresponding to the requirements in a "normal industrial atmosphere":

- V4 A AISI 316 stainless steel
- sheet steel with plastic powder coating

For use in an extremely aggressive atmosphere, please contact your Cooper Crouse-Hinds agent for additional information on the chemical stability of the plastics used.

5 Use / Properties

The terminal boxes are intended for the distribution of electrical energy, e.g. light circuits, heating circuits, control circuits, intrinsically safe circuits etc.(as to temperature class, explosion group, permissible ambient temperature, see technical data).

The electrical limiting values that are decisive for the intrinsic safety shall be observed.

The data as per point 3 and 4 will have to be taken into account with the use.

Applications other than described are not permitted without COOPER CROUSE-HINDS´s prior written consent.

For the operation, the instructions stated in section 7 of the operating instructions shall be observed.

If no Information on the safe use of any third-party products is included in these instructions, contact the respective manufacturer of the equipment.

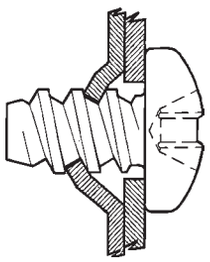
In addition to these instructions, the order-related, separate attached documentation shall be observed.

The responsibility for the suitability and proper use of the terminal boxes lies with the user.

6 Installation

For the mounting and operation, the respective national regulations equipment as well as the general rules of engineering and IEC/EN 60079-14 will have to be observed.

Pic 1 High Torque Schraube Ø 6 mm



6.1 Mounting

The stainless steel terminal boxes can be mounted without opening the enclosure.

When mounting the terminal boxes directly onto the wall, they shall rest evenly only on the fastening points provided for them.

The chosen screw must match the fastening hole.
Use suitable screws/bolts fixings with a diameter of 8mm and washers.

Screw down the terminal boxes n at all the fixing lugs.

6.2 Opening the apparatus/Electrical connection

Before opening the apparatus, it is necessary to ensure that there is no voltage or to take suitable protective measures.

⚠***The electrical connection of the apparatus may only be carried out by skilled staff and in acc. to IEC/EN 60079-14.***

⚠***The table of current load values found inside the cover of terminal boxes shall be observed.***

⚠***The maximum number of terminals as well as the maximum rated current shall be observed to avoid an inadmissible heat rise.***

⚠***The insulation of the conductors shall reach up to the terminal. The conductor itself must not be damaged.***

If multi- or fine-wire connection cables are used, the wire ends shall comply with the applicable national and international rules (e. g. use of ferrules).

The connectible min. and max. conductor cross-sections shall be observed.

All screws and/or nuts of the supply terminals, and unused terminals, shall be tightened down in acc. with the Technical Data.

The built-in, standard terminals are designed for the direct connection of conductors with copper cores.

⚠***The conductors shall be connected with special care in order to maintain the explosion category.***

If stud terminals are fitted, DIN cable lugs shall be used.

⚠***The cable lugs should be crimped onto the cable in a workmanlike manner. It is necessary to ensure that the required min. air gaps are adhered to (at 690V >12mm).***

⚠ ***If mixed Ex e / Ex-i apparatus is used, the required minimum distances shall be observed (see e.g. IEC/EN 60079-11).***

When apparatus is open, it is necessary to ensure (disconnect voltage supply) that no voltage is carried over into the connected intrinsically safe circuits.

The installation instructions for intrinsically safe electrical apparatus shall be observed. It is necessary to ensure that the permissible external capacitance and inductance of the special intrinsically safe circuits are not exceeded.

6.3 Cable entries (KLE)/Blanking plugs

⚠***Generally, only certified cable entries and blanking plugs may be used.***

⚠***Flexible cables are to be used with trumpet-shaped cable glands or other suitable entries with additional strain-relief.***

⚠***The operating instructions for the fitted cable entries shall be observed.***

⚠***When using cable entries with a lower IP degree of protection than that which applies to the device (see Technical Data, page 7), the IP-degree of protection of the complete device will be reduced.***

If further holes in the terminal box enclosures are needed at a later point in time, the holes may only be drilled after arrangement with the manufacturer.

In order to establish the minimum protection category (IP 64), unused holes have to be closed with a certified blanking plug.

When fitting the cable entries, care shall be taken to ensure that the sealing inserts used correspond to the cable diameter.

If sealing inserts that can be cut to size are used, it is necessary to ensure that the insert is properly adapted to the cable diameter.

In order to ensure the required minimum degree of protection (IP64), the cable glands shall be tightened down.

⚠***Over tightening might impair the protection category.***

6.4 Flanges

Depending on the type of terminal box, the high torque screws shown in Fig. 1, Ø 6 mm, shall be used for fixing the flange plate.

The minimum length of the screw thread is 6 mm.

⚠***The torques given in the Technical Data shall be observed.***

⚠***Over tightening might impair the protection category.***

⚠***Flange plates of stainless steel terminal boxes shall be fitted in such a way that the IP degree of protection in maintained.***

⚠***PE conductors fed in from the outside shall be connected to the PE terminal provided on the flange.***

⚠***Attention: Metal flanges, metal plates and metal cable glands shall be included in the equipotential bonding system.***

6.5 Closing the device / cover closure

⚠***All foreign matter shall be removed from the equipment.***

In order to ensure the required minimum protection category, the cover screws shall be tightened down.

⚠***Over tightening might impair the protection category.***

Where 1/4-turn latches are provided, each latch shall be rotated through the full 1/4-turn.

6.6 Putting into operation

Prior to putting the apparatus into operation, the tests specified in the respective national regulations and IEC/EN 60079-14 shall be observed.

In addition, the correct functioning and installation of the apparatus in accordance with these operating instructions and other applicable regulations shall be checked.

⚠***Incorrect installation and use of the terminal boxes can invalidate the guarantee.***

7 Maintenance / Servicing

⚠***The IEC/EN 60079-17 and relevant national regulations that apply to the maintenance/repair of electrical apparatus in explosive atmospheres shall be observed.***

STOP***Before opening the enclosure, make sure that the terminal box is disconnected from the voltage, or take the appropriate protective measures.***

In the case of intrinsically safe circuits, work on live equipment is permitted.

The required maintenance intervals depend on the specific application and will, therefore, have to be determined by the user dependent on the conditions of use.

When servicing the apparatus, particularly those parts that are decisive for the type of protection against explosion shall be checked (e.g. intactness and tightness of the enclosure, efficacy of the gaskets and the cable entries).

If during servicing, repairs prove to be necessary, section 8 of these operating instructions shall be observed.

8 Repairs / Overhaul / Modifications

Overhaul and repairs may only be carried out with original COOPER CROUSE-HINDS spare parts.

STOP***Repairs that affect the explosion protection may only be carried out by COOPER CROUSE-HINDS or a qualified electrician in compliance with the applicable national rules and IEC/EN 60079-19.***

Modifications to the apparatus or changes to its design are not permitted; the mounting of additional cable entries and the installation of supply terminals in accordance with the approval of the apparatus is permitted.

9 Disposal / Recycling

The valid national regulations for the disposal of apparatus shall be taken into account.

Subject to modifications or supplement of the product range.