

MTL GECMA Work Station Zone 2/22- Operating terminal

HMI workstation for hazardous area -
Zone 2 (Gas) or Zone 22 (Dust)



1 FOREWORD

Please read the entire operating instructions before starting assembly, connection, installation and commissioning of the equipment described herein.

The MTL GECMA Work Station Zone 2/22 and any associated safe area equipment must be installed or uninstalled by qualified personnel. This qualification must include specific training to perform the installation of electrical equipment for use in potentially explosive atmospheres, and in accordance with the relevant laws and regulations pursuant to the classification of zones under IEC 60079-14, as well as all applicable laws and statutory regulations in the country or region where the installation is taking place.

The information in the EC-type examination certificates should be specifically noted and fully understood prior to any installation work

Technical Developments

The data provided herein is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.

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Microsoft and Windows are registered trademarks of Microsoft Corporation.

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2 GENERAL REFERENCE

2.1 General safety information

The following methods are used in this manual to alert the user to important information:-

NOTE
These are used to give general information to ensure correct operation

IMPORTANT
These are used to indicate information that is important to the user

Safety instructions for installation and operating personnel

The operating instructions provided here contain essential safety instructions for installation personnel and those engaged in the operation, maintenance and servicing of the equipment.

	WARNING! Failure to comply with these instructions can endanger the lives or health of personnel and risk damage to the plant and the environment.
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	WARNING! Failure to comply with these instructions can endanger the lives or health of personnel, risking injury from electric shock.
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	WARNING! Failure to comply with these instructions can endanger the lives or health of personnel, risking injury from electric shock through improper earthing.
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Disclaimer:

The operating instructions in relation to warning and caution set out in these operating instructions are in lieu of all other representations, conditions, occurrences, warranties, express or implied, statutory or otherwise regarding events that might require caution or warning or otherwise, all of which are hereby excluded to the extent permitted by applicable law

2.2 Application

The MTL GECMA Workstation Zone 2/22 (10", 15" and 22") are HMI terminals which are used for operating and visualisation purposes. They may be installed in Zone 2 or 22.

The Gecma Work Station Zone 2/22 terminals have been assessed as an intrinsically safe system in Descriptive System Document IS5011. This defines the system as T4 IIC Gc and T135°C IIIB Dc for Ta 0°C to +45° and permits the terminal to be installed in a Zone 2 or Zone 22 environment.

The MTL GECMA Workstation Zone 2/22 (10", 15" and 22") certification information above fully certifies the terminal for use in Zone 2 or Zone 22. Refer to the individual module and component markings.

The system includes a number of separately certified components, and details of these are given below for reference.

Additional certificates and manuals for these components are not required in order to operate a MTL GECMA Workstation Zone 2/22 (10", 15" and 22") terminal.

Product	Certificate	Product marking
GECMA Work Station Zone 2/22 Display Panel 10"	MTL23ATEXGWS222X	Ex II 3G Ex ec IIC T120°C Gc U Ex II 3D Ex tc IIIC T85°C Dc U Tamb 0°C to + 60°C
GECMA Work Station Zone 2/22 Display Panel 15"	MTL23ATEXGWS222X	Ex II 3G Ex ec IIC T120°C Gc U Ex II 3D Ex tc IIIC T85°C Dc U Tamb 0°C to + 60°C
GECMA Work Station Zone 2/22 Display Panel 21.5"	MTL23ATEXGWS222X	Ex II 3G Ex ec IIC T120°C Gc U Ex II 3D Ex tc IIIC T85°C Dc U Tamb 0°C to + 60°C
P&F barrier SK-PC-D2-UU1-10-HS	DEMKO 14ATEX1269806X	Ex II 3G Ex nA [ic] IIC T6 Gc Ex II 3G Ex nA [ic IIIB] IIC T6 Gc Tamb -40°C to +60°C
P&F Keyboard/Mouse EXTA4-L-NN-K4-X	BVS 21 ATEX E 009 X	Ex II 3G Ex ic IIC T4 Gc Ex II 3D Ex ic IIIB T135°C Dc Tamb -20°C to +50°C
PULS CP5.241-C1 Power Supply	EPS 19 ATEX 1 201 X	Ex II 3G Ex ec nC IIC T4 Gc Tamb -25°C to +70°C
Keyboard: MTL Gecma Keyboard KBi	ATEX: BVS 05 ATEX E 174X	Ex iA IIC T4 Gb Tamb -40°C to +70°C
Touchpad: MTL Gecma Touchpad TPi	TÜV 04 ATEX 2458 IECEx TUN 04.0020	Ex II 1 G Ex ia IIB T4 Ga Ex 2 G Ex ia IIC T4 Gb Ex ia IIC T4 Gb Tamb -40°C to +70°C

In the event a module needs to be replaced, please refer to the appropriate individual manual which is included with modules when supplied separately.

2.3 Safety guidelines

These safety guidelines contain information and precautions that must be taken into account for safe operation in the conditions described.

The Safety Provisions chapter must be studied carefully and adhered to.

The Operating Instructions must be read before installing or using the terminal.

All information contained in this INM MTL GECMA Work Station Zone 2/22 manual is provided "AS – IS". Eaton waives any liability or responsibility for errors or omissions in the contents of this INM MTL GECMA Work Station Zone 2/22. No warranties of any kind are made in connection with the information contained in this.

2.4 ATEX safety instructions

The following information is in accordance with the Essential Health and Safety Requirements (Annex II) of the EU Directive 2014/34/EU [the ATEX Directive- safety of apparatus] and is provided for those locations where the ATEX Directive is applicable.

General

- a. This equipment must only be installed, operated and maintained by competent personnel. Such personnel shall have undergone training, which included instruction on the various types of protection and installation practices, the relevant rules and regulations, and on the general principles of area classification. Appropriate refresher training shall be given on a regular basis. [See clause 4.2 of EN 60079-17].
- b. This equipment has been designed to provide protection against all the relevant additional hazards referred to in Annex II of the directive, such as those in clause 1.2.7.
- c. This equipment has been designed to meet the requirements of EN 60079-0, EN 60079-7, EN 60079-11, EN 60079-15 and EN 60079-31

Installation

- a. The installation must comply with the appropriate European, national and local regulations, which may include reference to the IEC code of practice IEC 60079-14. In addition, particular industries or end users may have specific requirements relating to the safety of their installations and these requirements should also be met. For the majority of installations the Directive 1999/92/EC [the ATEX Directive- safety of installations] is also applicable.

Special conditions & constraints applicable to installer/operator

1. Ensure that the device is not exposed to dangerous impacts and other types of dangerous mechanical shock
2. De-energize the device before disconnecting plug connections.
3. Clean only with a clean soft antistatic damp cloth.
4. The danger of ignition due to propagating brush discharges must be avoided by mounting the apparatus in areas without an intensive charging mechanism.
5. The equipment shall only be used in an area of not more than Pollution Degree 2 as defined in EN 60664-1.

Refer to DSD IS5011 for details of all special conditions for the incorporated equipment. All special conditions not listed here are met by the design and construction of the systems described in this document.

Inspection and maintenance

- a. Inspection and maintenance should be carried out in accordance with European, national and local regulations which may refer to the IEC standard IEC 60079-17. In addition specific industries or end users may have specific requirements which should also be met.
- b. Access to the internal circuitry must not be made during operation.

Repair

- a. This product cannot be repaired by the user and must be replaced with an equivalent certified product.

Marking

Each device is marked in compliance with the Directive and CE marked.

Refer also to separate manual for instructions relating to Gecma Zone 2/22 Panel PC, the Pepperl & Fuchs Keyboard and Barrier manuals and to appendices of this manual for PULS C5.241-C1 instructions.

Safety provisions

	WARNING!
	Use of the device assumes that the user has observed the standard safety provisions in order to prevent incorrect operation of the device.

	WARNING!
	The responsibility for planning, installation, commissioning, operation and maintenance, particularly with respect to applications in explosion-hazard areas, lies with the plant operator.

General:

- National safety and accident prevention regulations apply.
- **MANUAL HANDLING – HEAVY LIFT.** The MTL GECMA Work Station Zone 2/22 has a unpackaged weight that can exceed 48kg. Care must be exercised in the manual handling of these items. Two or three persons, or appropriate machinery, is recommended when lifting and positioning these items.
- Incorrect, impermissible use or non-compliance with these operating instructions may invalidate any warranty.
- All other instructions, notes and regulations contained in these operating instructions must be complied with and observed.
- The MTL GECMA Work Station Zone 2/22 may be used in Zone 2 or Zone 22 applications.
- The device must only be operated in an undamaged condition as damage can negatively impact the safe operation of the EX protection.
- The IP rating of the outer housing applies only when the rear door is closed and latched.
- The maximum permissible altitude for the operation of the system is 2000 meters.

Before commencing installation or commissioning:

- Read and understand the contents of these instructions.
- Ensure that any operating instructions are fully understood by the personnel responsible.
- Use the device only for its intended purpose.
- The installation and commissioning may only be performed by professional personnel who are trained according to the applicable regulations, standards and guidelines.
- All equipment must be installed, connected and operated correctly and in accordance with the applicable assembly and installation regulations, standards and guidelines.
- It must be ensured that the provisions, e.g. EN 60079-14, the EC type examination certificate, and other relevant and applicable standards are followed and observed.
- The equipment must be operated in accordance with the electrical parameters and other information prescribed in the operating instructions and EC-type examination certificate.
- Only devices which correspond to the electrical characteristics of the EC-type examination certificate or the operating instructions may be connected.
- All earth connections must be made prior to connectivity to any power.

- Ensure that the terminal and its components have been installed correctly and any wiring is undamaged before the terminal is operated.
- Modifications and changes to the terminals and its components are not permitted and may affect the safe operation of the EX protection.

During operation:

- Make these instructions available at all times to the operating personnel.
- Servicing, maintenance work or repairs not described in this manual must not be performed without prior agreement with the manufacturer.
- Electrostatic hazard. Clean only with a moist cloth and detergent.
- Avoid using aggressive acids or bases when cleaning.
- In the event of any damage to the front glass screen, the display must be switched off immediately.

	WARNING!
	Operational safety cannot be guaranteed in the event of non-compliance or contravention of these safety provisions and will invalidate any warranty claim. Deviations require the written approval of Eaton Electric Limited

IMPORTANT
Exposure to extremes in temperature will affect the performance of the MTL Gecma Workstation Zone 2/22. It is recommended therefore that the unit is installed out of direct sunlight where all-day shadowing of the unit can be achieved. The maximum permitted ambient temperature may be reduced if it is mounted in an additional housing.

	WARNING!
	Extremely low ambient temperatures can affect the display and may cause it to darken. Excessively high temperatures may affect the life time of the display. The MTL GECMA Work Station Zone 2/22 is certified to operate within the temperature ranges of 0°C to +45°C Please see section '1.3 Application' in this manual for a full overview of certification and marking.

2.5 Performance risks and damage

At any time unusual performance is observed or physical damage is noted, the HMI (Human-Machine Interface) could potentially be unsafe and must be taken out of service until the problem is corrected. Examples of possible safety risks include:

	WARNING!
	As soon as the device safety has been compromised, the terminal must be taken out of service immediately to avoid any unintended restarts. We recommend that in this situation the terminal should be returned to the manufacturer for inspection.

The device safety could be compromised if, for example:

- damage to the housing is visible,
- the device has been subjected to excessive loads,
- the device has been improperly stored,
- the device has been damaged in transit,
- the device certification is illegible,
- malfunctions occur,
- the permissible threshold values have been exceeded.

3 OVERVIEW

The MTL GECMA Work Station Zone 2/22 (10", 15" and 22") is an operating terminal for use in hazardous areas. Its modular design consists of a display module, power supply, and individual peripherals such as keyboard and touchpad.

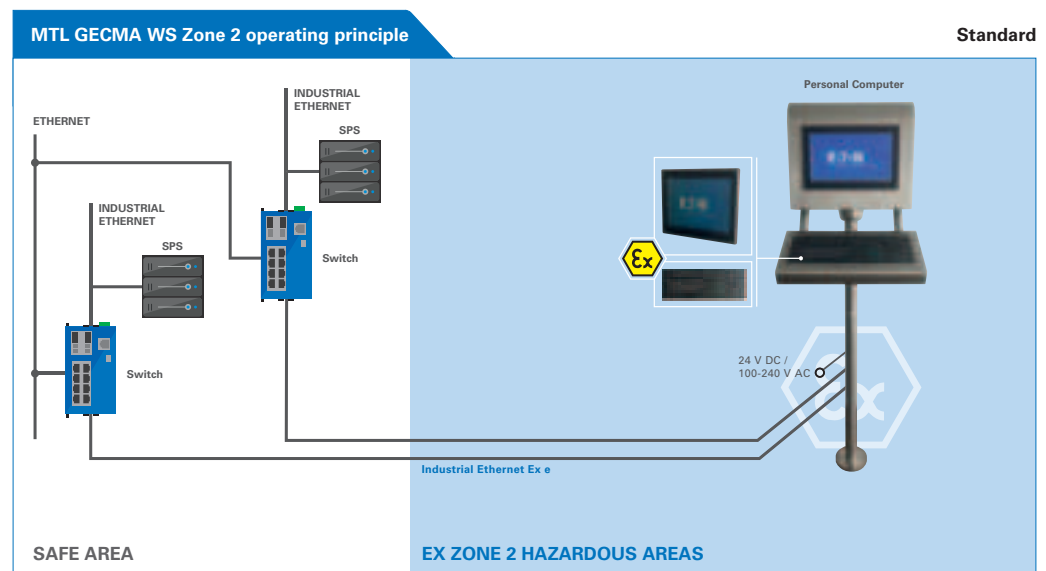
They can be specified for use as a Display, Remote Display or Thin Client within the strictest of hygienic conditions, aggressive indoor and outdoor production environments and in Ex areas typically found in pharmaceutical, chemical, petrochemical, oil & gas and off-shore manufacturing.

MTL GECMA Work Station Zone 2/22 displays ensure the best display performance available by incorporating LED-backlight technology to provide a high-resolution image in a low-power display.

3.1 Operating principles

The quad-core, 2GHz CPU is supported by 8GB of DDR3L RAM and is capable of running complex applications using a windows operating system.

Panel PC

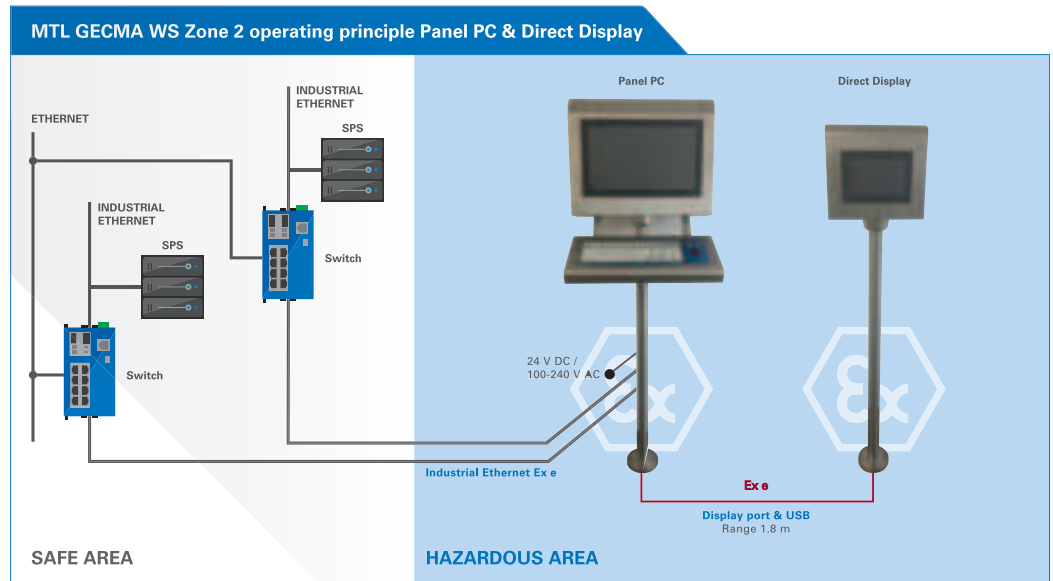


The Panel PCs in the GECMA Work Station Zone 2/22 series impresses with an exceptional degree of openness and outstanding performance parameters. The devices run on the Windows 10 Enterprise LTSC operating system. This means they are compatible with a wide range of application software, like Distributed Control System, Manufacturing Execution System or any other software used to display and control processes.

The efficient Panel PCs feature an Intel Atom E3950 Quad Core CPU and ensure a high processing capacity as well as high-performance graphics. In addition to the two Ethernet and four USB interfaces, the devices are equipped with a configurable RS232/RS422/RS485 interface. The 10.1", the 15.6" and the 21.5" display size ensure that our Panel PC can be tailored to the application.

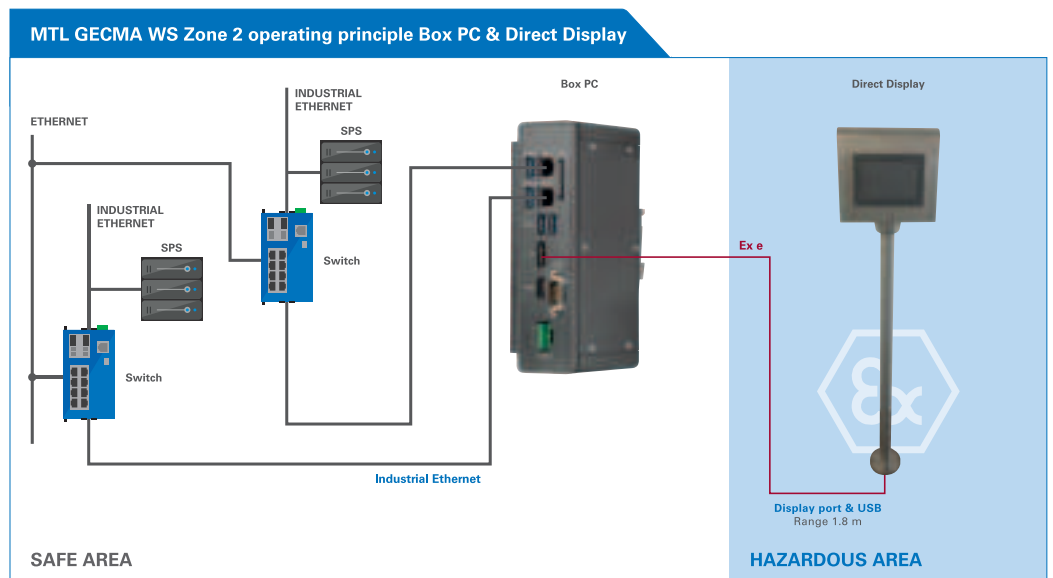
The Panel PCs can be offered as full systems in a stainless-steel housing including Keyboard and Pointing device with various mounting options.

Panel PC and Direct Display



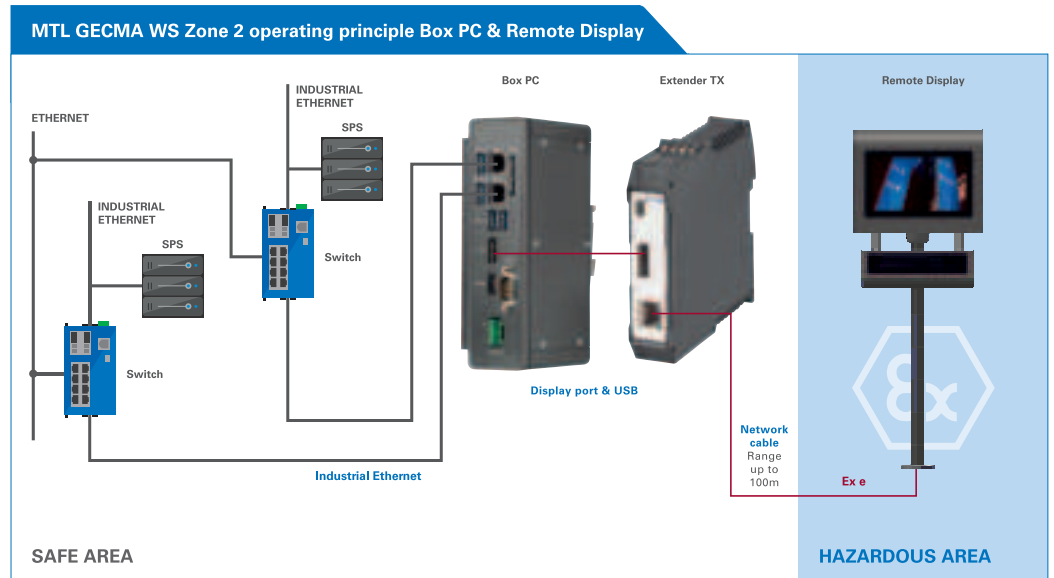
The Direct Display adds an additional screen to the Panel PC application and can be an important asset. The applications for this kind of extended display usually require an improved line of sight in complex use cases such as larger machines where the operator needs to access the product from several sides while having access to the visual data (e.g. tooling machines). This solution is also needed when additional data needs to be displayed on an extended display, such as access to the ERP system or just to show the SOPs while working through a step-by-step process. Also, the Display can be mounted in Landscape and Portrait mode.

BOX-PC and Direct Display

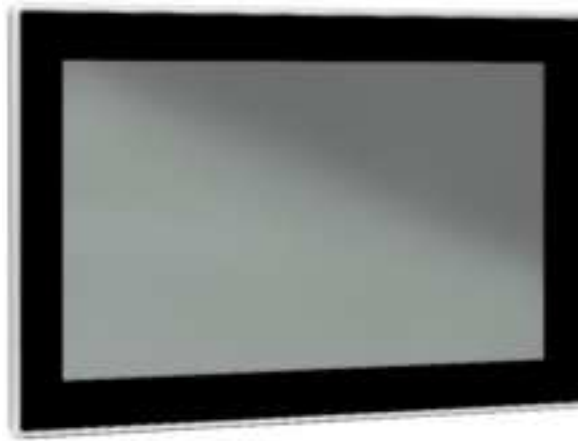


The Direct Display can be connected to any local PC, whether that is a standard off-the-shelf office PC or a specific piece of hardware that has to go with the machine or process that needs to be visualized and controlled. The Direct Display comes with a projective capacitive multitouch for on-screen data entry. The Eaton Box-PC offers the same hardware from the Panel PC as a separate, Din-Rail or wall mounted piece of hardware to help you standardize your specific application across the production floor.

BOX-PC PC and Remote Display



The Remote Display offers a projective capacitive multitouch Display for on-screen data entry. The Display uses an integrated data transmission and connects the Remote Display through a proprietary data line back to a transmitter unit, which can be up to 1.8m away from the PC. These Remote Display solutions can be found in applications where the physical distance between the HMI and the point of data display is too far for a standard Video/ USB connection. You'll find these typically in multi-story control applications, such as loading bays for tank wagons or trucks. Also, the Box PC and the Panel PC have two graphical outputs, so the number of Direct Displays and Remote Displays connected to the PC can vary.



3.2 Overview of the MTL GECMA Work Station Zone 2/22 variants

Device Type:	Model:
Direct Display	
MTL GECMA WS Zone 2/22 10" Direct Display	10.1" Direct DisplayC with PCAP Multitouch, 16:10, 1280 x 800px, DC Power
MTL GECMA WS Zone 2/22 15" Direct Display	15.6" Direct Display with PCAP Multitouch, 16:9, 1366 x 768px, DC Power
MTL GECMA WS Zone 2/22 22" Direct Display	21.5" Direct Display with PCAP Multitouch, 16:9, 1920 x 1080px, DC Power
Remote Display	
MTL GECMA WS Zone 2/22 10" Remote Display	10.1" Remote Display with PCAP Multitouch, 16:10, 1280 x 800px, DC Power, requires connection with Extender Unit
MTL GECMA WS Zone 2/22 15" Remote Display	15.6" Remote Display with PCAP Multitouch, 16:9, 1366 x 768px, DC Power, requires connection with Extender Unit
MTL GECMA WS Zone 2/22 22" Remote Display	21.5" Remote Display with PCAP Multitouch, 16:9, 1920 x 1080px, DC Power, requires connection with Extender Unit
Panel PC	
MTL GECMA WS Zone 2/22 10" Panel PC	10.1" Panel PC with PCAP Multitouch, 16:10, 1280 x 800px, DC Power
MTL GECMA WS Zone 2/22 15" Panel PC	15.6" Panel PC with PCAP Multitouch, 16:9, 1366 x 768px, DC Power
MTL GECMA WS Zone 2/22 22" Panel PC	21.5" Panel PC with PCAP Multitouch, 16:9, 1920 x 1080px, DC Power
Keyboard	
GWS Z2/22 Keyboard DE with TP incl Barrier	GWS Z2/22 Glass Keyboard GERMAN layout with integrated Touchpad and Barrier for connection to GWS Z2/22 Panel PC
GWS Z2/22 Keyboard EN with TP incl Barrier	GWS Z2/22 Glass Keyboard ENGLISH layout with integrated Touchpad and Barrier for connection to GWS Z2/22 Panel PC
GWS Z2/22 Keyboard FR with TP incl Barrier	GWS Z2/22 Glass Keyboard FRENCH layout with integrated Touchpad and Barrier for connection to GWS Z2/22 Panel PC
Others	
GWS BoxPC	GWS BoxPC for DinRail or Wall Mount, Intel Atom QuadCore E3950 2GHz, 8GB DDR3 RAM, 64GB SSD, DC Power
GWS Z2/22 Extender Unit	Extender Unit for Remote Display, Copper, up to 100m distance, Mini-USB, DisplayPort, DC Power
GWS Z2/22 AC Power Supply	PULS CP5.241-C1 AC Power Supply for use in Zone 2 environments, 100-240VAC Input, 24VDC Output

3.3 Areas of application

The MTL GECMA Workstation Zone 2/22 (10", 15" or 22") can be used wherever operation or visualisation is required indoors.

MTL GECMA WS Zone 2/22 10" (10.1"):

Software running on any IBM-compatible PC with a resolution of 1280 x 800 pixels, 16:10 picture format.

MTL GECMA WS Zone 2/22 15" (15.6"):

Software running on any IBM-compatible PC with a resolution of 1366 x 768 pixels, 16:9 picture format.

MTL GECMA WS Zone 2/22 22" (21.5"):

Software running on any IBM-compatible PC with a resolution of 1920 x 1080 pixels, 16:9 picture format.

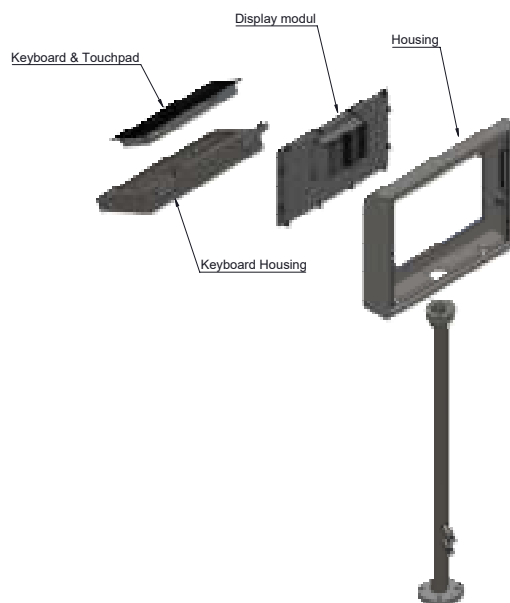
3.4 MTL GECMA Work Station Zone 2/22 components in detail

The MTL GECMA Workstation Zone 2/22 has a modular design with the individual components shown in figure below:

Appendix A includes a system diagram showing the interconnection of the individual modules.

3.5 Dimensions

For system dimensions refer to Appendices F, G and H.



4 MECHANICAL & ELECTRICAL INSTALLATION

4.1 Mechanical

	WARNING!
	The responsibility for planning, installation, commissioning, operation and maintenance, particularly with respect to applications in explosion hazard areas, lies with the plant operator.

IMPORTANT
Ensure that you have read and understood all of the safety provisions within section 2.6 prior to commencing installation.

Refer to Appendix A for further detailed installation instructions.

4.2 Electrical

Refer to Sections 10 and 11 and Appendix E for guidance on wiring and earthing.

5 MTL GECMA 10 /15 / 22 / WS ZONE 2/22 PANEL PC

IMPORTANT
Do not install the terminal where the display screen will be subjected to direct sunlight. Regular exposure to ultra-violet (UV) rays will reduce the lifetime of the TFT display panel. Speak to your MTL GECMA representative if you need further guidance on this matter.

The display units are available in the following dimensions: 10, 15 and 22 inches.

Please refer to Appendix F, G and H for the mechanical layout of MTL GECMA Workstation Zone 2/22 range.

5.1 Technical data

Refer to separate manual for Gecma Work Station Zone 2/22 Panel

6 KEYBOARD MODULE with integrated Touchpad (KB)

Refer to separate manual for Pepperl & Fuchs Keyboard with integrated Touchpad and barrier.

7 POWER SUPPLY

Refer to Appendix K for details of PULS CP5.241-C1

8 SYSTEM SET-UP

The following table itemises the weights of individual modules and components to allow a user to assess the weight of an assembled system, either in pedestal housing format (RDP) or console mounting (RD).

MTL Gecma Workstation Zone 2/22	10.1"	15.6"	21.5"
Electronics	Net Weight		
Direct Display	2,6kg	4,0kg	6,1kg
Remote Display	2,7kg	4,1kg	6,2kg
Panel PC	2,7kg	4,9kg	7,55kg
Peripherals	Net Weight		
Pepperl & Fuchs Keyboard with Touchpad	1.9kg		
Pepperl & Fuchs Barrier	0.5kg		
Housing			
Display Housing	7kg	16,0kg	16,5kg
Keyboard Housing with struts	Not applicable	6,1kg	
Coupling	2.1kg		
Pedestal	7,3kg		
Elbow	5,2kg		

Maximum System Weight			
RDP Version	10.1"	15.6"	21.5"
Electronics	Not applicable	7,33kg	9.95kg
Housing	Not applicable	22,1kg	22,6kg
Pedestal	Not applicable	9,4kg	9,4kg
Total	Not applicable	38.8kg	41,95kg
RD Version	10.1"	15.6"	21.5"
Electronics	2.7kg	4,9kg	7,55kg
Housing	7kg	16kg	16,5kg
Pedestal & Coupling	9,4kg		
Total	19,1kg	30,3kg	33,5kg

9 General information

IMPORTANT	
Do not install the terminal where the display screen will be subjected to direct sunlight. Regular exposure to ultra-violet (UV) rays will reduce the lifetime of the TFT display panel. Speak to your MTL GECMA representative if you need further guidance on this matter.	
	WARNING!
	The 'Safety guidelines and provisions' and 'Installation and Connection Instructions' must be studied and strictly adhered to in order to ensure safe and reliable operation.
	WARNING!
	The installation may only be carried out by trained specialists who have the appropriate training certification. These personnel must be able to demonstrate familiarity with the specific nature of potentially explosive atmospheres.
	WARNING!
	When installing the safe area unit – rack option, adequate space must be ensured for ventilation.
	WARNING!
	All earthing must be connected or wired prior to commissioning. The connection points are labelled with the symbol shown here on the right. 

9.1 Assembly of the MTL GECMA housing

The MTL GECMA housing is assembled as follows, please refer to the relevant Appendix within this document for further assistance.

1. Various mounting options are available. Floor mounted (bottom housing connection), wall mounted (elbow, top/bottom housing connection) or ceiling mounted (top/bottom housing connection). This work should be performed only by qualified personnel.
2. An assembly coupling is mounted on the pedestal/elbow- see Appendix B.
3. The power and data cables are fed through the pedestal – see Appendix C.
4. The MTL GECMA housing is screwed to the assembly coupling or the mounting plate- see Appendix B.
5. All remaining earth connections are made

10 DC POWER CABLE ASSEMBLY

Important information concerning connection when the terminal is powered by a DC supply.

	WARNING!
	The installation may only be carried out by individuals who have the appropriate certification. These personnel must be able to demonstrate familiarity with the specific nature of operationally reliable systems.

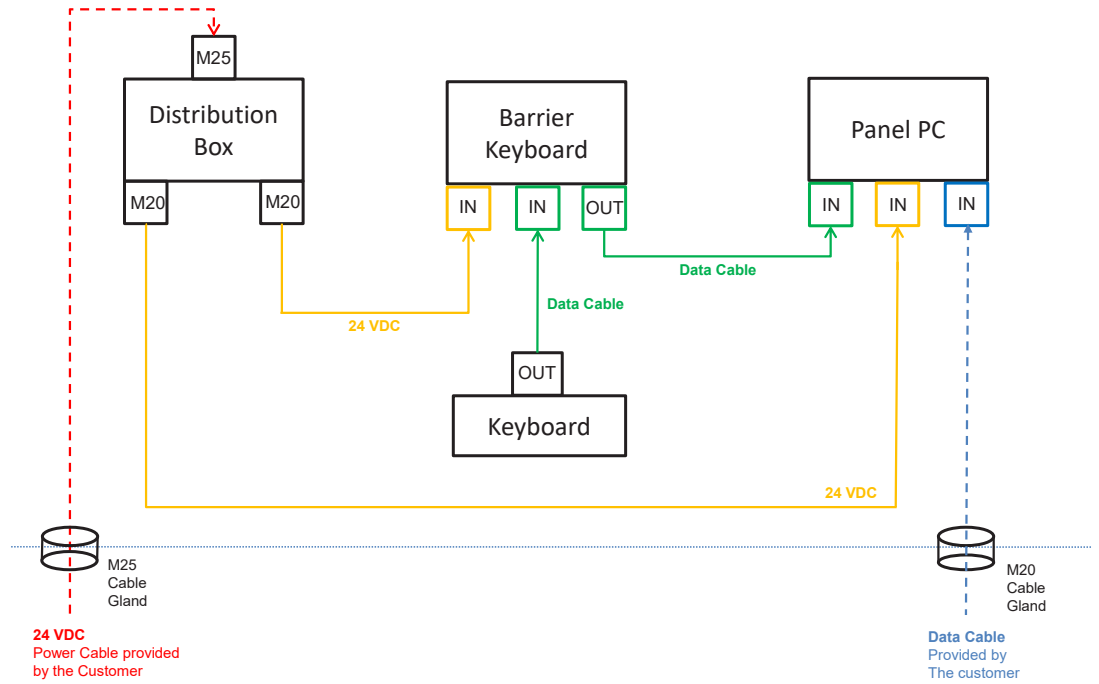
	WARNING!
	The equipment should be installed as per local codes and practices. It is recommended that a disconnecting switch which complies with the requirements of IEC 60947-1 & IEC 60947-3 is installed within easy reach of the operator. This switch must be marked to clearly show its function. European regulations recommend that fuses are fitted in both the live and neutral of the mains supply to the instrument.

IMPORTANT:
The switch located beside the equipment MUST be fused in accordance with the stated power consumption of the components used in the system for the AC power supply input.

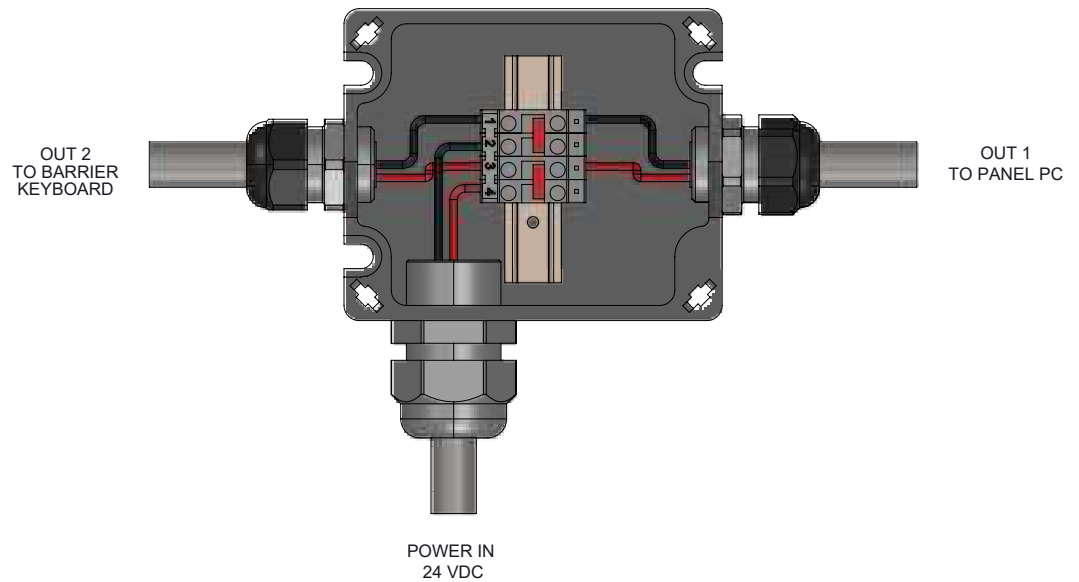
IMPORTANT:
DC power must be provided by a dedicated DC power supply and must not be provided from a distributed network.

Refer to INM GECMA 10" Panel, INM GECMA 15" Panel and INM GECMA 22" Panel manuals for DC Power Cable assembly instructions

DC Wiring Plan



DC Distribution box



11 AC POWER CABLE ASSEMBLY

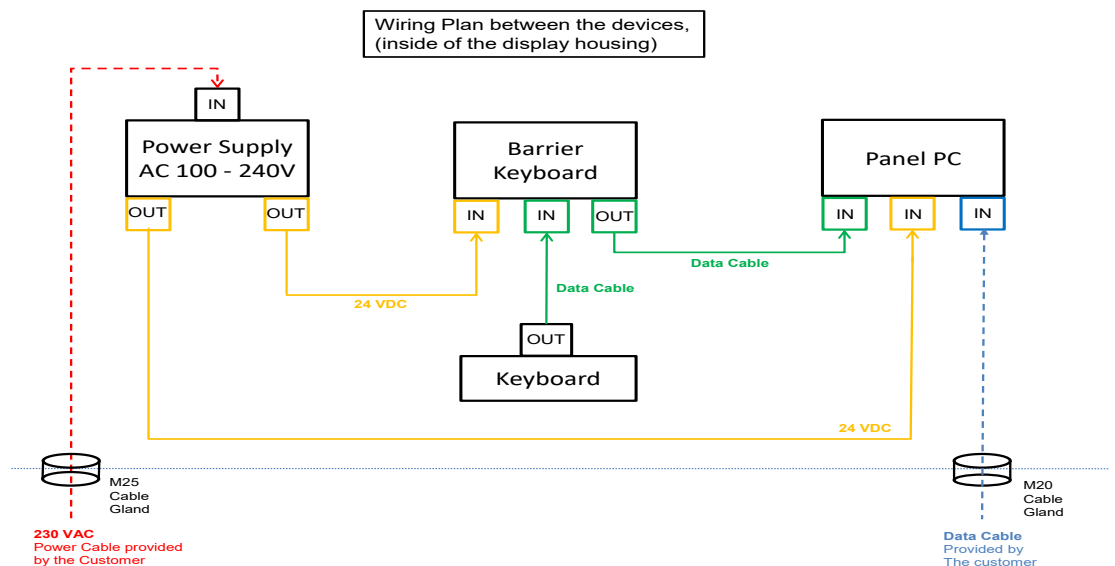
Important information concerning connection

	WARNING! The installation may only be carried out by individuals who have the appropriate training. These personnel must be able to demonstrate familiarity with the specific nature of operationally reliable systems.
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	WARNING! The equipment should be installed as per local codes and practices. It is recommended that a disconnecting switch which complies with the requirements of IEC 60947-1 & IEC 60947-3 is installed within easy reach of the operator. This switch must be marked to clearly show its function. European regulations recommend that fuses are fitted in both the live and neutral of the mains supply to the instrument.
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IMPORTANT: The switch located beside the equipment MUST be fused as directed on the following pages for the AC power supply input.

AC WIRING PLAN



12 CONNECTIONS

Refer to INM GECMA 10" Panel, INM GECMA 15" Panel and INM GECMA 22" Panel manuals for USB Cable assembly, COM Cable assembly and LAN cable assembly instructions.

13 POWER UP

Before switching on the system, check again to make sure everything is mounted, connected and installed as prescribed so as to ensure safe operation of the terminal.

We recommend that all types of power management in the PC are deactivated.

The power is controlled by the local power switch (there is no power switch on the terminal)

13.1 Operation and settings

Upon successful installation of all components and system startup, the Windows desktop screen will appear on the Gecma Work Station Zone 2/22 panel.

14 FIRST LOG IN

1. An "XP504" user account with admin privileges is already set up on the Eaton GWS Z2/22 device by default. You will need to enter a new password for this user the first time you start the device. After making the change, make sure to restart Windows with the "Restart" option. (Shutting down the GWS Z2/22 and then starting it back up is not enough!).
2. A password must have at least 10 characters.
3. In addition, the password must include characters from at least three of the following four categories:
4. Uppercase letters, lowercase letters, numbers, special characters

	CAUTION - DATA LOSS
	If the power goes out while restarting, this may result in the GWS Z2/22 no longer being able to start correctly. If this happens, please contact Support.

Please refer to separate manual for Zone 2 Panel for detailed setup and configuration instructions.

15 MAINTENANCE

At regular intervals, depending upon the particular location of the terminal, the general state of the terminal should be assessed for both its electrical and mechanical condition.

The following item checks should be considered for inspection.

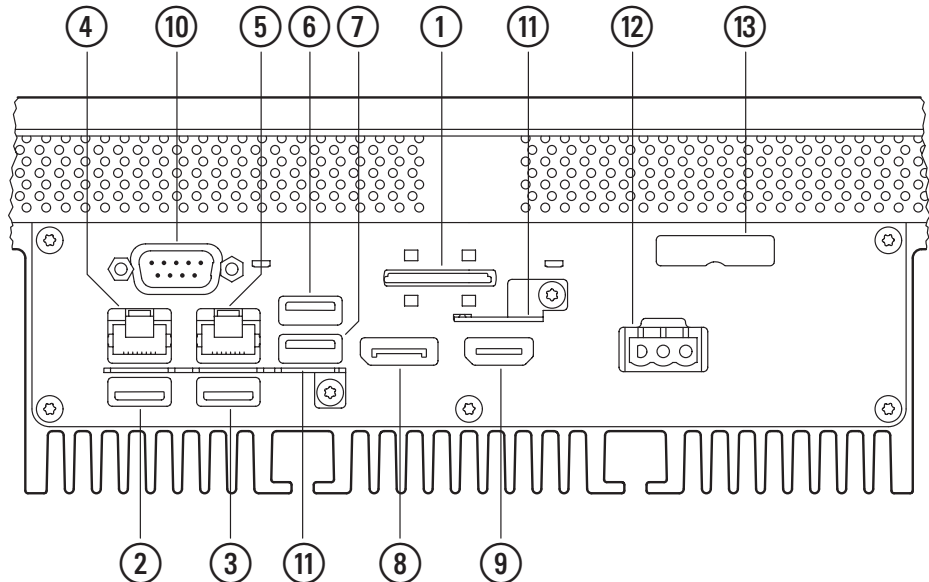
1. Check for any signs of wear, tampering, or impact damage to the housing and its display. The terminal must be taken out of use immediately if the damage is judged to be affecting the Ex protection of the equipment.
2. Check all ground (earth) connections for integrity and condition. Check for any signs of corrosion at terminals, and that all screw connections are adequately tightened.
3. Check power connections and the state of the cables carrying the power. If there are signs of wear or cable damage the equipment must be taken out of service immediately and not restored to use until any damaged cables have been replaced.
4. Check the tightness of all mechanical fastenings, especially those supporting the terminal housing and its connecting bolts to a pedestal (STF) or elbow (EBF).
5. Check for the presence or build-up of dust, dirt or contaminants on the housing and its components and deal with any accumulations appropriately.
6. Check for any other maintenance issues that may be dictated by site rules.
7. Avoid using aggressive acids or bases when cleaning.

16 APPENDICES

Appendix A - system diagram

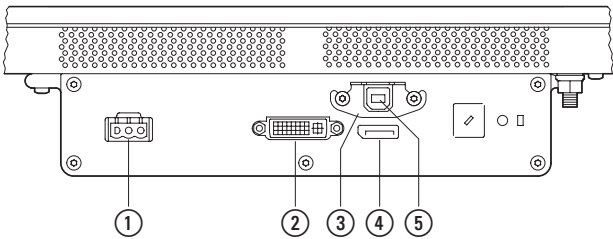
All connections are made at the factory. Only the respective power supply cable and the data cable are to be connected to the safe area unit on-site.

16.1 Panel PC



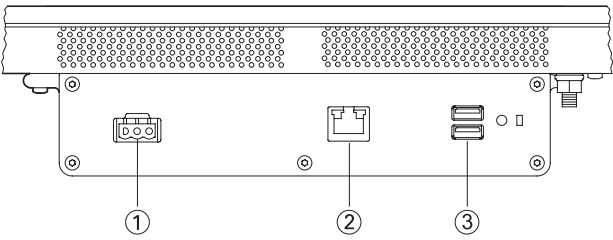
Interface	Version
① SD card slot	Not equipped
② USB-Host 3.0	USB3.0 / 2.0, plug type A
③ USB-Host 3.0	USB3.0 / 2.0, plug type A
④ Ethernet 1 LAN	RJ-45 socket, 8-pole, 2 LEDs (CAT5e/6), LAN, 1000 MBit/s
⑤ Ethernet 2 LAN	RJ-45 socket, 8-pole, 2 LEDs (CAT5e/6), LAN, 1000 MBit/s
⑥ Dual-USB-Host 3.0	Dual-USB3.0 / 2.0 T, plug type A
⑦ Dual-USB-Host 3.0	Dual-USB3.0 / 2.0 T, plug type A
⑧ DP	Default display interface
⑨ HDMI	Default display interface 1.4b
⑩ RS232/422/485	9-pin D-sub plug, not galvanically isolated Can be configured in BIOS; default setting: RS-232 full duplex
⑪ Strain relief	Metal plate for fixing the USB and HDMI ports
⑫ 24 VDC	power supply MSTBT 2.5/3-ST-5.08
⑬ Battery	BR2032 (190mAh, 3V) from Panasonic

16.2 Direct Display



	Interface	Version
①	24 VDC	power supply MSTBT 2.5/3-ST-5.08
②	DVI-I	Default display interface
③	Strain relief	Metal plate for fixing the USB port
④	DP	Default display interface
⑤	USB-B	USB 2.0, not galvanically isolated, Type-B connector (used by the touch functionality)

16.3 Remote Display



	Interface	Version
①	24 VDC	power supply MSTBT 2.5/3-ST-5.08
②	DVI-I	RJ-45 socket, 8-pole, 2 LEDs (CAT5e/6)
③	USB	Dual USB 3.0 / 2.0

➔ The RJ45 sockets on Remote Display and Extender TX are used by the transmitter/receiver cable.

Do not connect the RJ45 (Extender RX) EXT IN port to an Ethernet network.

Appendix B - Assembling the coupling unit (optional)

The coupling is the connection element between the stand- or mounting pipe and the terminal. This allows the terminal to be rotated for optimal use.

- First, the two Allen screws are to be unscrewed in order to remove the casing from the main coupling element.

The screws are replaced later.



- The sealing ring of the casing should be extensively lubricated (use ca. ½ tube of assembly paste).



A - Lubricant Paste.

B - x4 (M6 12) socket head screws for housing.

C - x3 (M6 16) self-tapping screws.

D - Casing

E - Main coupling element

- The casing is now inverted with the narrow opening over the pipe and pushed so far down that approx. 20 cm of the mounting tube is exposed above.

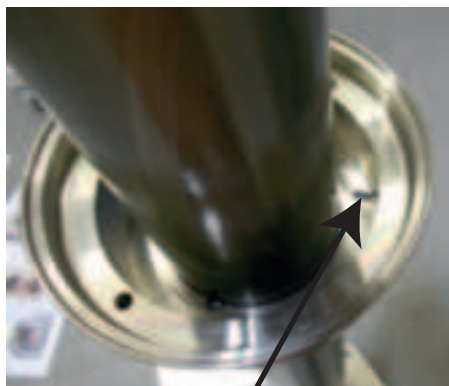


- The main coupling element is placed on the end of the pipe.

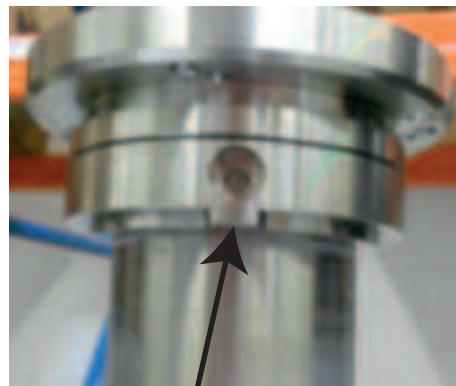
The 3 bore holes are overlaid with the drill openings of the pipe by rotating the main coupling element.

Important: Note the orientation of the notch in the casing.

This should be opposite the groove on the coupling element, i.e. about 180°. Only then is a maximum turning radius for the terminal guaranteed.



Groove in the casing



Groove in the main coupling element

- The main coupling element is connected to the pipe end by tightening the three self-tapping Allen screws to a maximum torque setting of 9 nm.

The holes must not be drilled in advance



- The main coupling element is now firmly attached to the mounting pipe.
Now slide the lubricated casing up to the main coupling element.

IMPORTANT

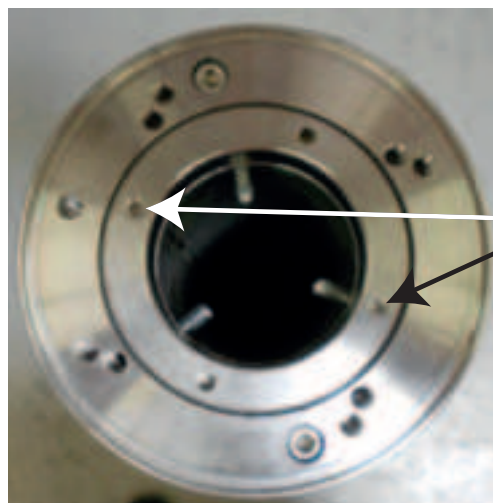
CAUTION Risk of Injury:
Clasp your hands around the casing as illustrated in the photograph. Otherwise, there is an increased risk of injury due to the jerky movement of the lubricated casing, since the fingers grip the upper rim of the casing.



- The two parts are now reconnected rotating the main coupling element until it aligns with the two outer screw holes. Then the two Allen screws are tightened to a maximum torque setting of 6nm



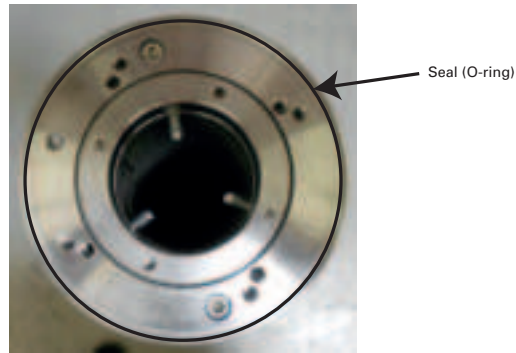
- Now check the rotational resistance of the coupling. This is an optional process because a certain resistance is set at the factory. However, you should be aware of the adjustment function since the resistance decreases over time and the monitor can be moved back and forth easily after some use.



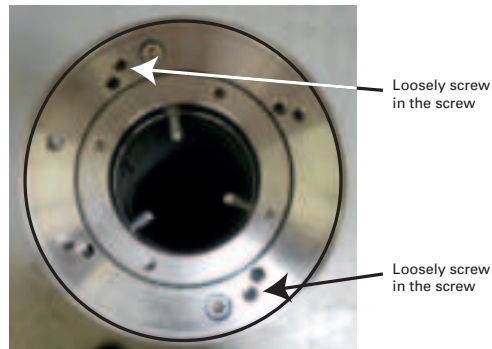
2 grub screws

- Loosen the two grub screws completely. The rotatable inner ring has a thread. Using a suitable object (e.g. hammer/chisel) the resistance can be increased through clockwise rotation or decreased through anticlockwise rotation. If you can rotate the outer ring just barely by hand then the resistance is sufficient, since the mounted monitor acts as a lever. Replace the the grub screws to a maximum torque setting of 2nm.

- Now attach the seal (O-ring) and apply the remaining half tube of lubricant there.



- Loosely screw in two of the four Allen screws in the areas shown, i.e. with three to four turns.



NOTE
Before mounting the terminal housing, we recommend at this point that the required cables (power supply and data cable) be fed through the standpipe as described in appendix C.

- The terminal housing is then ready to be mounted onto the coupling unit. This is achieved by placing the elongated holes on the housing over the screws that have just been fixed to the coupling unit as shown below.



- When the housing is stable and in position, insert the remaining x2 screws and tighten all four screws evenly to a maximum torque setting of 9-10nm.
- The terminal can now be positioned in place and rotated to the desired angle.

Appendix C - Fixing the pedestal/elbow to a surface

The mounting procedure will normally depend upon the mounting surface. The following method is suggested but local rules and guidelines must be followed whenever they are provided.

- 1) Prepare holes in the mounting surface, on the centres shown in Appendix I & J, depending on mounting requirements, to accept suitable screws/bolts for mounting.

Recommended bolts sizes:

Wall mount is M10

Floor / ceiling mount is M16

- 2) Fit washers onto fixing bolts and tighten all fixing bolts to the manufacturers recommended torque value.

Recommended torque settings:

Standard torque setting for M10 with minimum 6.8 quality (stainless steel) is 37Nm.

Standard torque setting for M16 with minimum 6.8 quality (stainless steel) is 160Nm.

NOTE
Please note that dependant upon the type of anchor fitting the values may be different. Refer to fixing bolt manufacturer if required.

Appendix D - Installing the power & data cable

Cable gland entry points (M20 & 25) are provided in the standpipe as a method of routing the power and data cables. Remove the glands and feed the cable through the standpipe. The cable glands can then be fastened securely.

NOTE
Please ensure that all glands are sealed to IP54.



NOTE
Unused cable gland entry points must be sealed with a suitable Ex approved blanking plug. These can be sourced from Eaton Electric Limited



Appendix E - Earthing between the STF or EBF and housing

	WARNING!
	When using a standpipe (STF) or an elbow (EBF) and a rotatable coupling, the pre-installed earthing cable on the RD/RDP housing must be connected to one of the self-tapping coupling screws (inside the standpipe) M6x20.

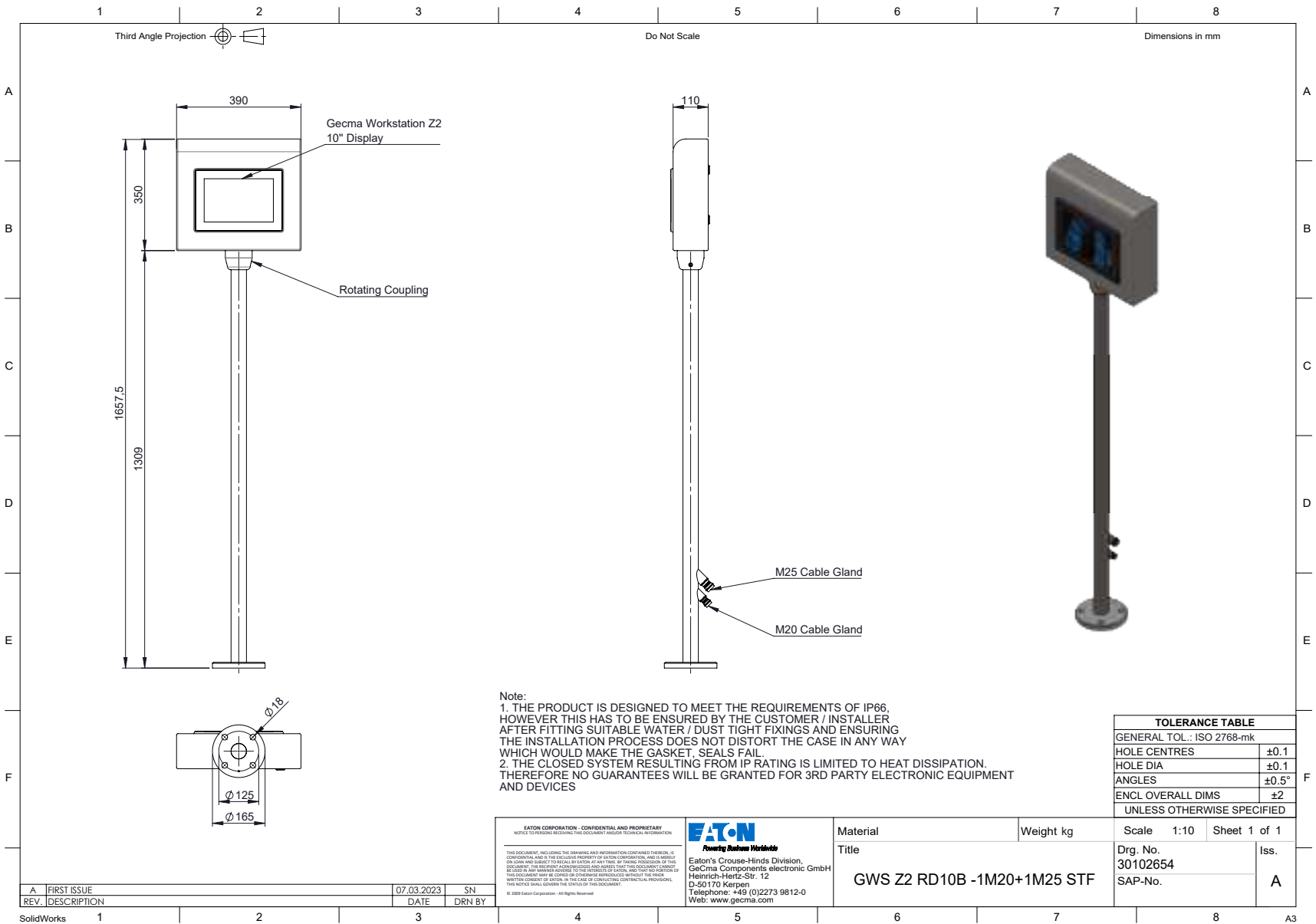


Earthing of the coupling to the housing
(Similar to image)



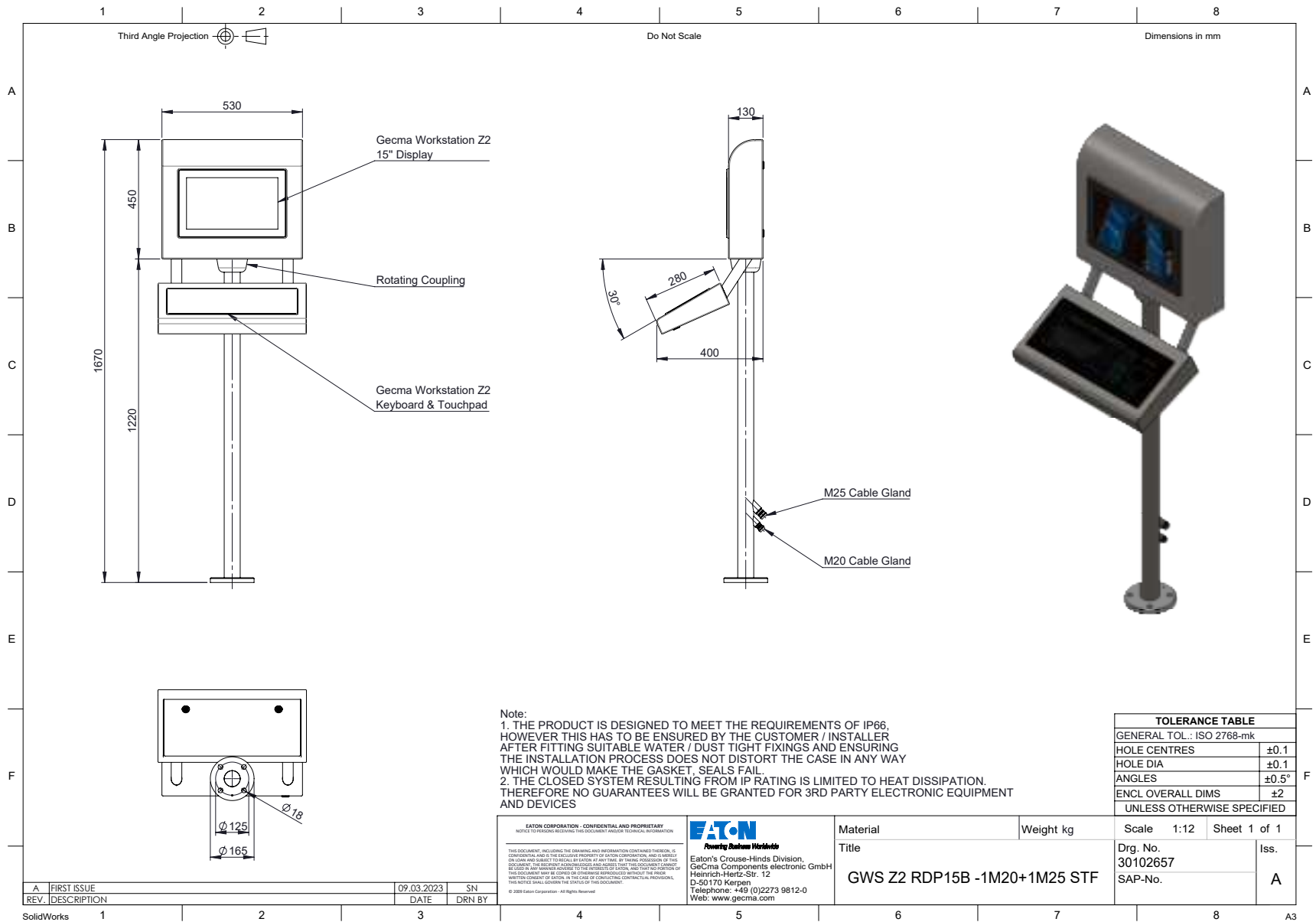
Earthing on the inside of the STF to a
coupling screw

NOTE
You can also refer to Appendix B for more information.



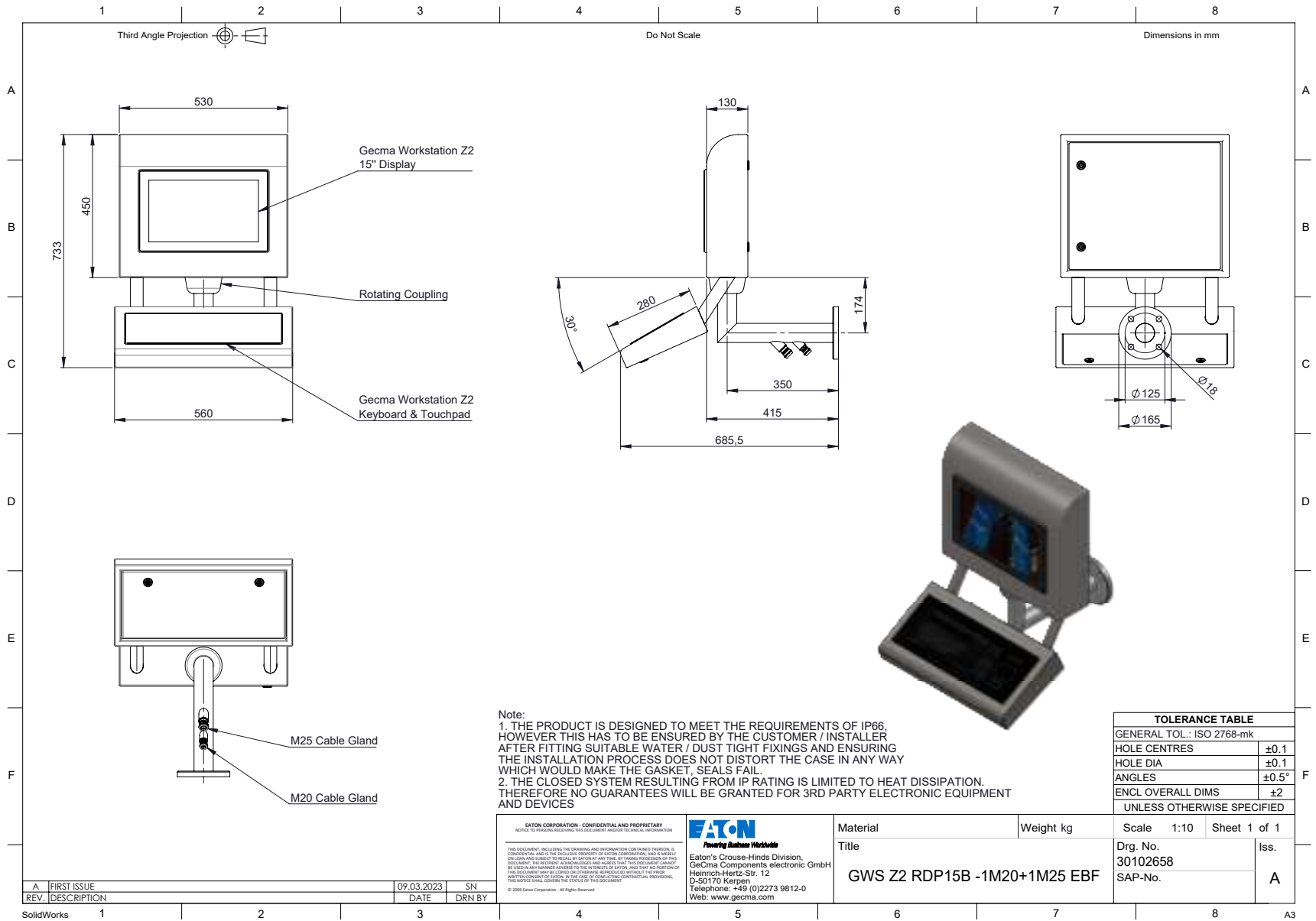
Panel PC/Remote Display/Direct Display versions

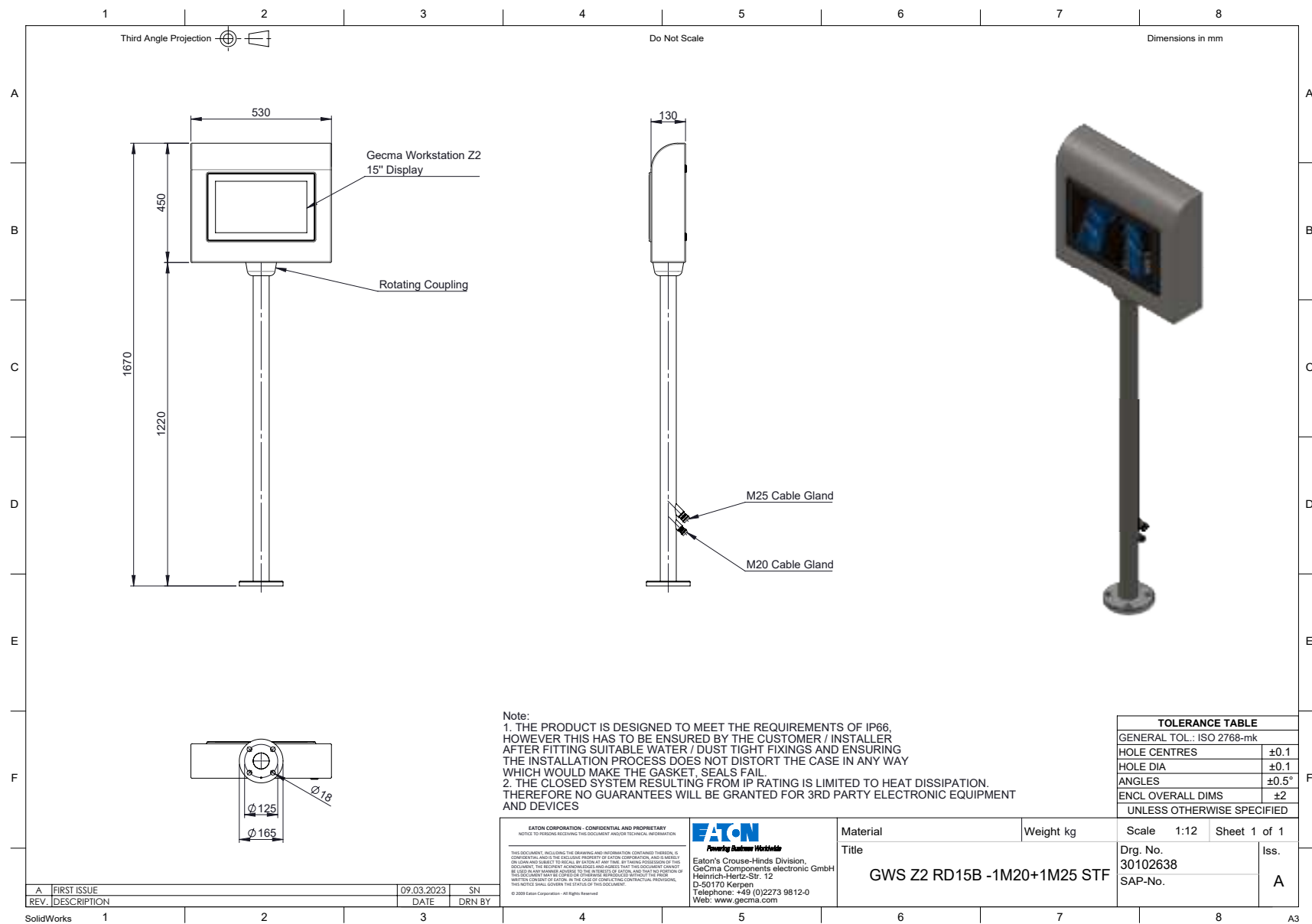
Appendix F - MTL GECMA Zone 2/22 10" drawing

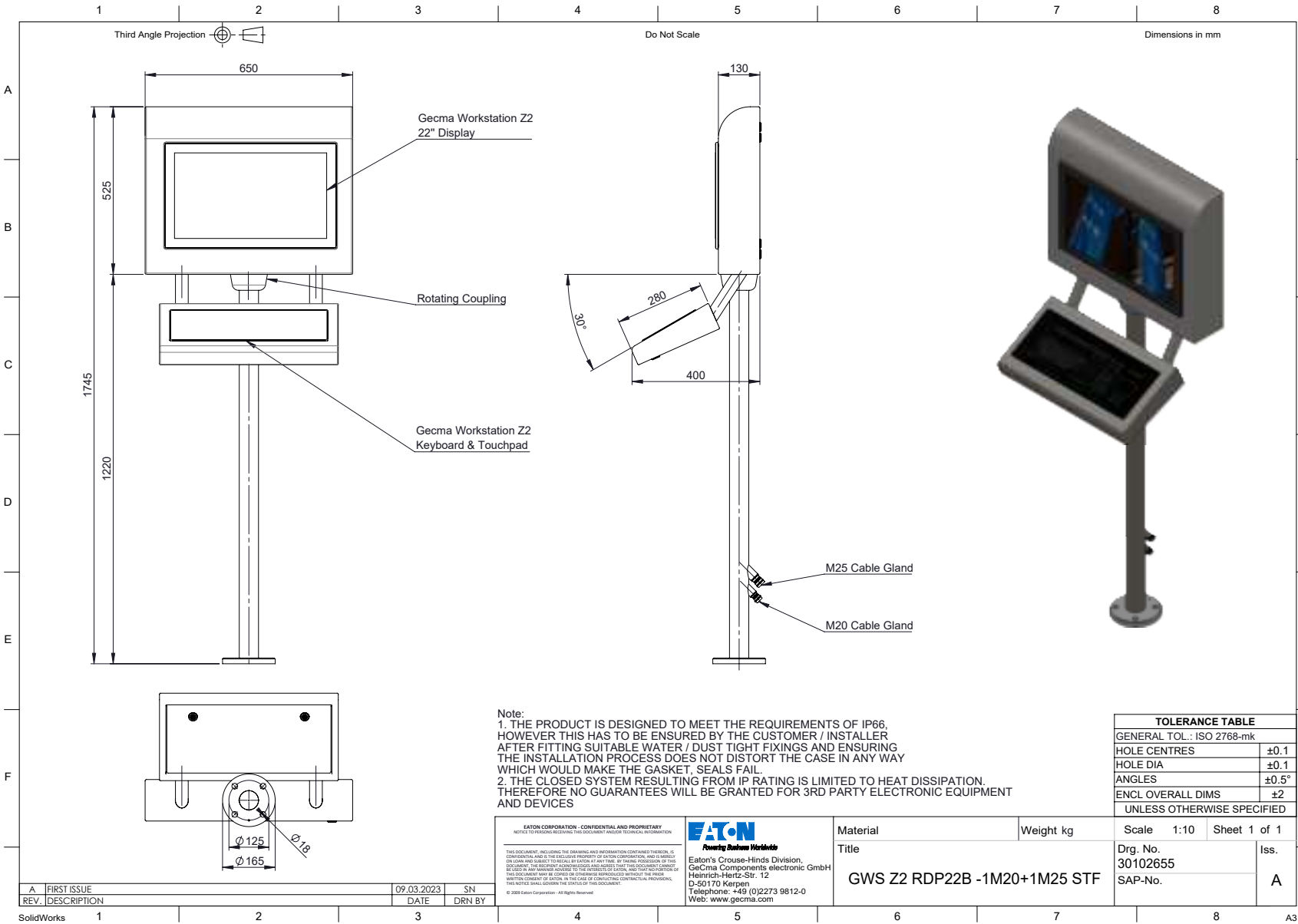


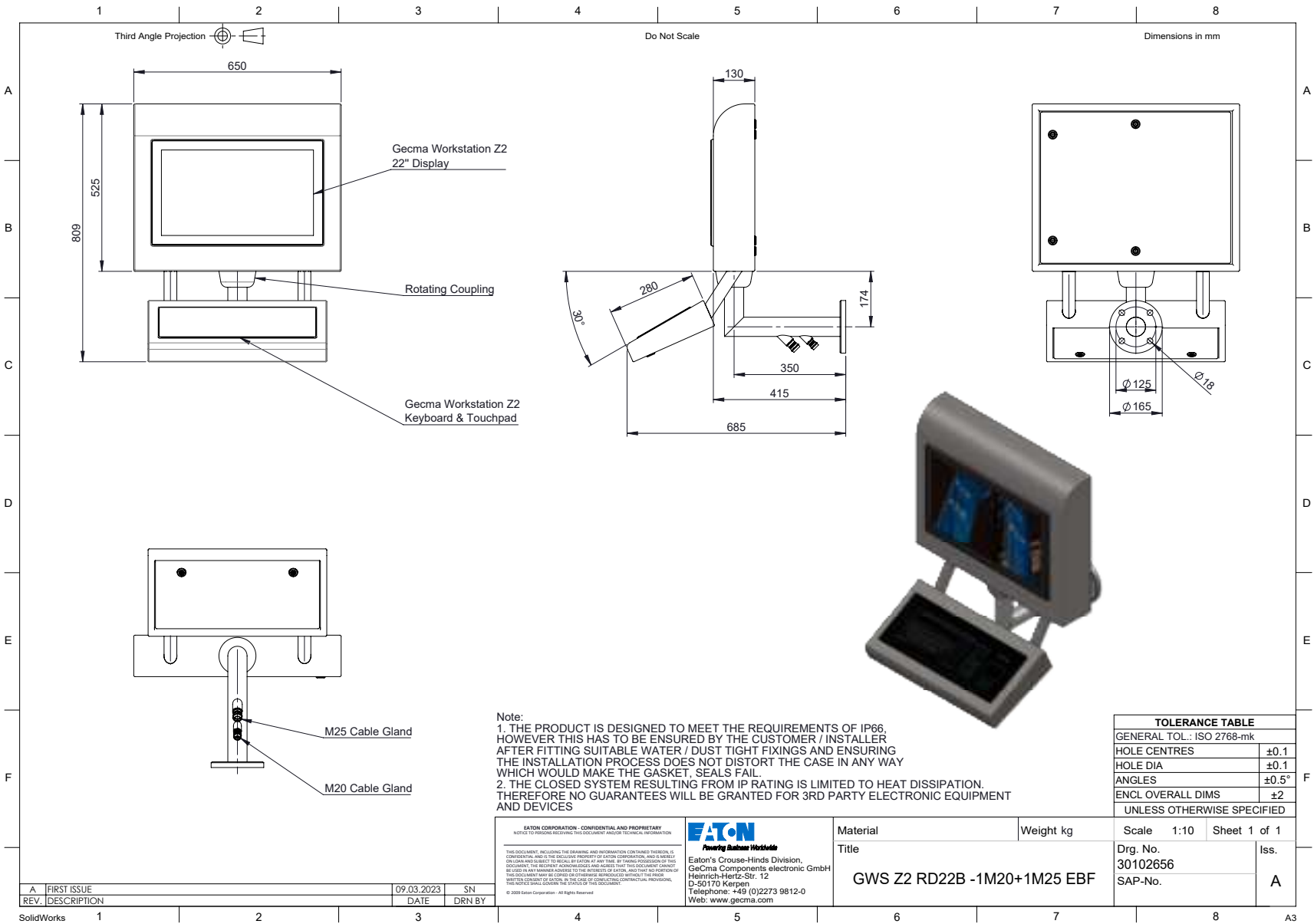
Versions with KB housing

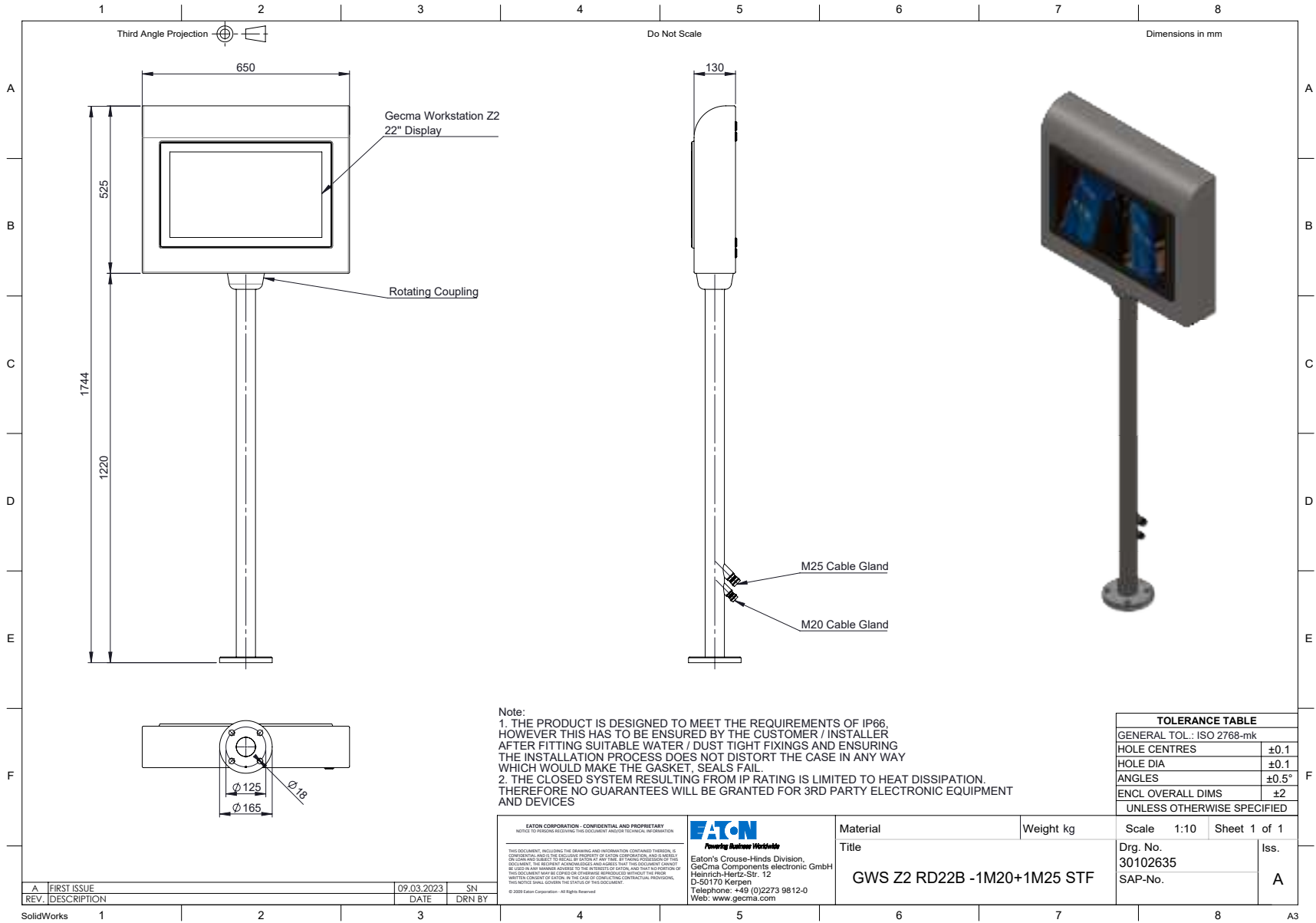
Appendix G - MTL GECMA Zone 2/22 15" drawings





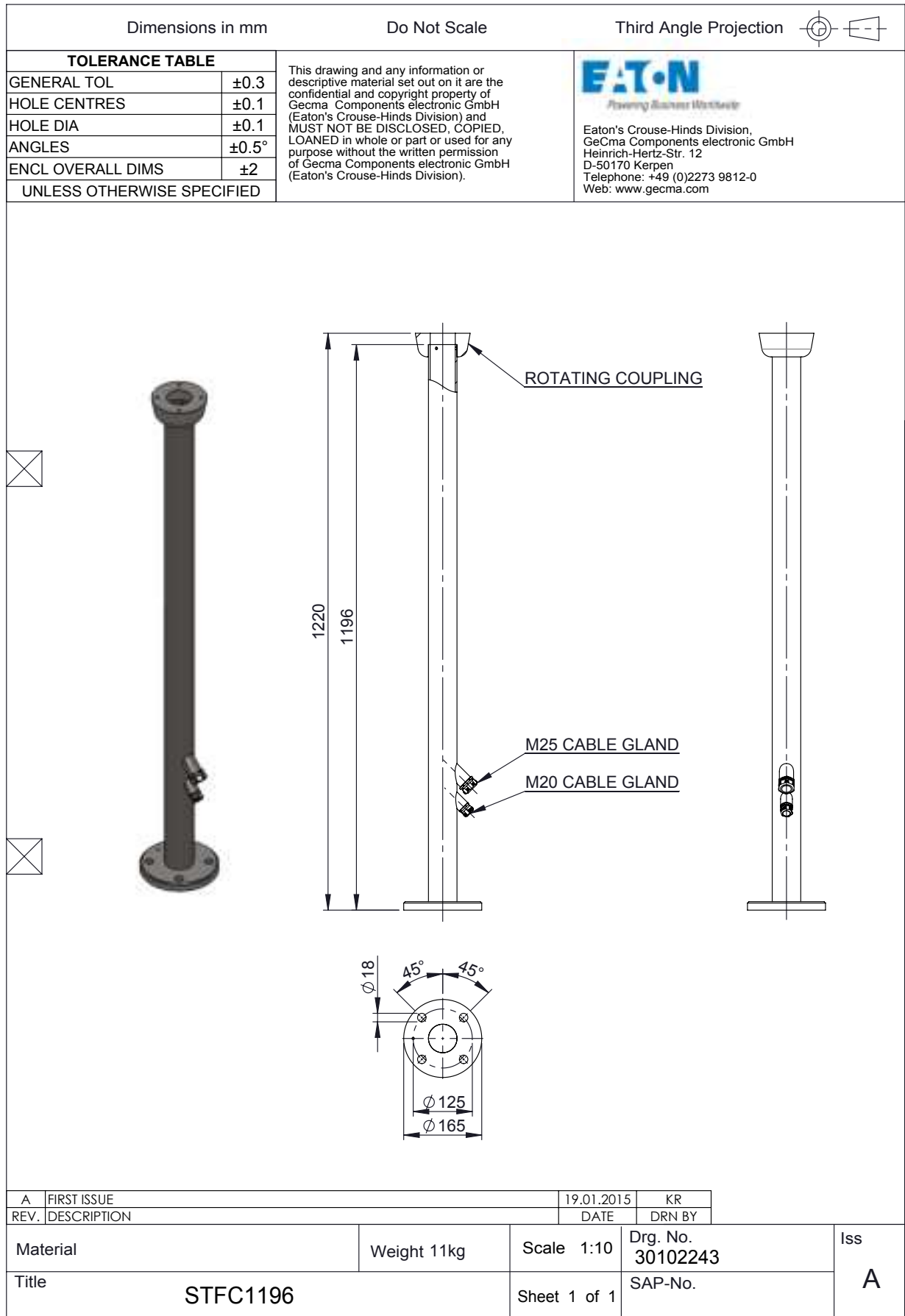






Versions without KB housing

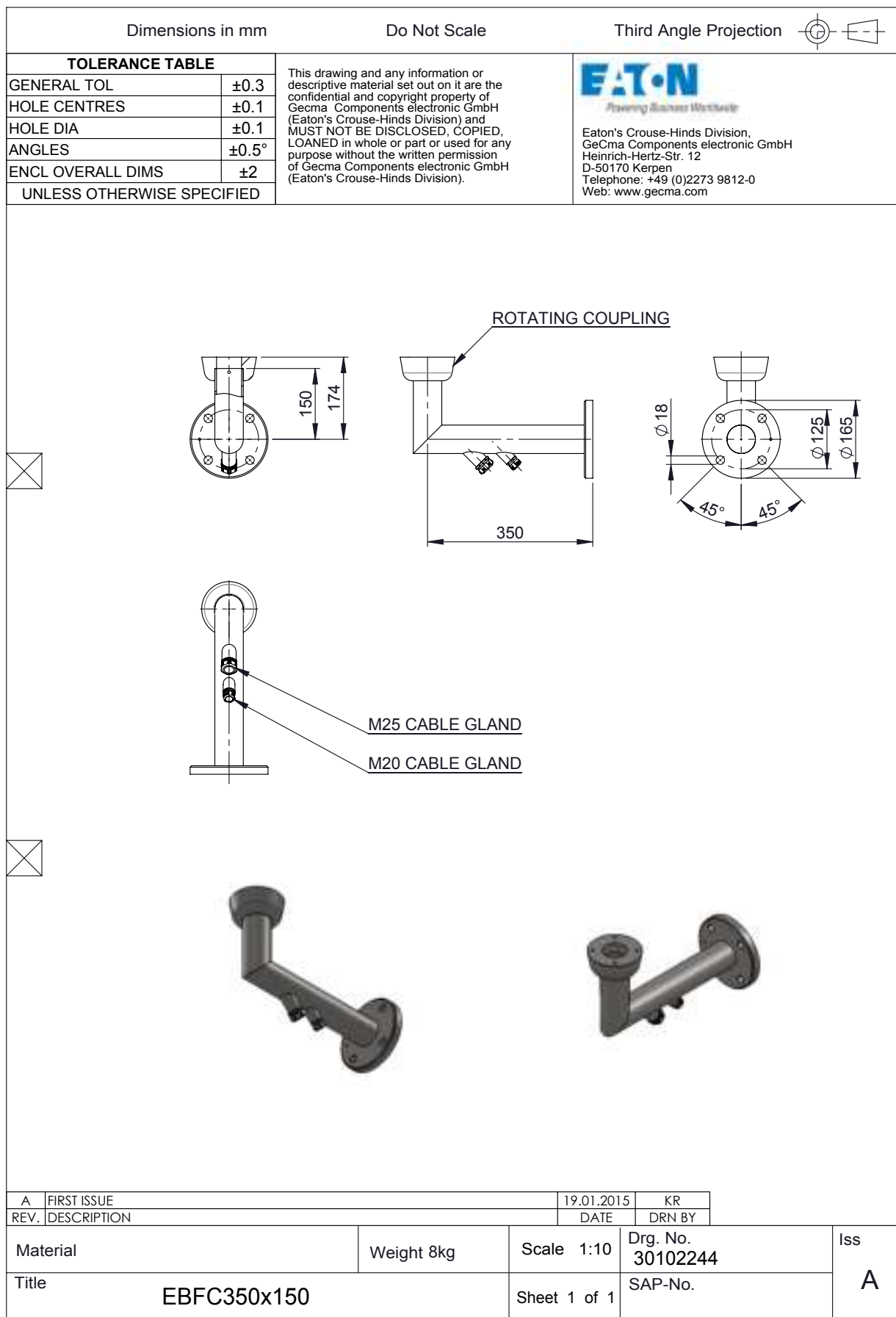
Appendix I - MTL GECMA pedestal mount



SolidWorks

A4

Appendix J - MTL GECMA elbow mount



SolidWorks

A4

Appendix K - PSU Manual

EN	CP5.241, CP5.241-C1 Installation Manual	Power Supply 1-Phase, 24V, 5A, 120W
DE	CP5.241, CP5.241-C1 Aufstallanleitung	Stromversorgung 1-Phase, 24V, 5A, 120W
FR	CP5.241, CP5.241-C1 Manuel d'installation	Alimentation d'Énergie 1-Phase, 24V, 5A, 120W
ES	CP5.241, CP5.241-C1 Manual de instalación	Fuente De Alimentación 1-Phase, 24V, 5A, 120W
IT	CP5.241, CP5.241-C1 Manuale di Installazione	Gruppo di alimentazione 1-Phase, 24V, 5A, 120W
PT	CP5.241, CP5.241-C1 Manual de instalação	Fonte De Alimentação 1-Phase, 24V, 5A, 120W



Doc. ID: PU-435.015.00-xxE (2020-08-04-MR1)

PULS



Read this first!

English

Before operating this device, please read this manual thoroughly and retain this manual for future reference! This device may only be installed and put into operation by qualified personnel. If damage or malfunction should occur during operation, immediately turn power off and send device to the factory for inspection. The device does not contain serviceable parts. The information presented in this document is believed to be accurate and reliable and may change without notice. For any clarifications the English translation will be used.



WARNING

Risk of electrical shock, fire, personal injury, or death:

- Turn power off before working on the device. Protect against inadvertent re-powering.
- Do not open, modify or repair the device.
- Use caution to prevent any foreign objects from entering the housing.
- Do not use in wet locations or in areas where moisture or condensation can be expected.
- Do not touch during power-on and immediately after power-off. Hot surfaces may cause burns.

Vor Inbetriebnahme lesen!

Deutsch

Bitte lesen Sie diese Warnungen und Hinweise sorgfältig durch, bevor Sie das Gerät in Betrieb nehmen. Bewahren Sie die Anleitung zum Nachlesen auf. Das Gerät darf nur durch fachkundiges und qualifiziertes Personal installiert werden. Bei Funktionsstörungen oder Beschädigungen schalten Sie sofort die Versorgungsspannung ab und senden das Gerät zur Überprüfung ins Werk. Das Gerät beinhaltet keine Servicebauteile. Die angegebenen Daten dienen allein der Produktbeschreibung und sind nicht als zugesicherte Eigenschaften im Rechtssinne aufzufassen. Im Zweifelsfall gilt der englische Text.



WARNING

Missachtung nachfolgender Punkte kann einen elektrischen Schlag, Brände, schwere Unfälle oder Tod zur Folge haben:

- Schalten Sie die Eingangsspannung vor Installations-, Wartungs- oder Änderungsarbeiten ab und sichern Sie diese gegen unbeabsichtigtes Wiedereinschalten.
- Führen Sie keine Änderungen oder Reparaturversuche am Gerät durch. Gerät nicht öffnen!
- Verhindern Sie das Eindringen von Fremdkörpern, wie z.B. Büroklammern und Metallteilen.
- Betreiben Sie das Gerät nicht in feuchter Umgebung oder in einer Umgebung, bei der mit Batauung oder Kondensation zu rechnen ist.
- Gehäuse nicht während des Betriebes oder kurz nach dem Abschalten berühren. Heiße Oberflächen können Verletzungen verursachen.

A lire avant mise sous tension!

Français

Veuillez lire ces instructions de montage et d'entretien avant de mettre l'alimentation sous tension. Conservez ce manuel qui vous sera toujours utile. Cette alimentation ne doit être installée que par du personnel qualifié et compétent. En cas de dommage ou dysfonctionnement, coupez immédiatement la tension d'alimentation et retournez l'appareil à l'usine pour vérification. L'alimentation ne contient pas de pièces échangeables. Les données indiquées dans ce document servent uniquement à donner une description du produit et n'ont aucune valeur juridique. En cas de divergences, le texte anglais fait foi.



AVERTISSEMENT

Prendre en compte les points suivants, afin d'éviter toute détérioration électrique, incendie, dommage aux personnes ou mort:

- Mettre l'alimentation hors tension avant toute intervention sur celle-ci et s'assurer qu'il n'y a pas risque de redémarrage.
- Ne pas ouvrir, modifier ou réparer l'alimentation.
- Veiller à ce qu'aucun objet ne rentre en contact avec l'intérieur de l'alimentation (trombones, pièces métalliques).
- Ne pas faire fonctionner l'appareil dans un environnement humide ou dans un environnement où il peut y avoir de la condensation.
- Ne pas toucher le carter pendant le fonctionnement ou directement après la mise hors tension. Surface chaude risquant d'entraîner des blessures.

Lea primero!

Español

Conserve este manual como referencia para futuras consultas. La fuente de alimentación solo puede ser instalada y puesta en funcionamiento por personal cualificado. Por favor lea detenidamente este manual antes de conectar la fuente de alimentación. Si se produce un fallo o mal funcionamiento durante la operación, desconecte inmediatamente la tensión de alimentación. En ambos casos, el equipo debe ser inspeccionado en fábrica. La información presentada en este documento es exacta y fiable en cuanto a la descripción del producto y puede cambiar sin aviso. En caso de duda, prevalece el texto inglés.



ADVERTENCIA

Riesgo de descarga eléctrica, incendio, accidente grave o muerte:

- Desconectar la tensión de red antes de trabajar en la fuente de alimentación. Evite una posible reconexión involuntaria.
- No realizar ninguna modificación o reparación de la unidad. No abrir la unidad.
- Evitar la introducción en la carcasa de objetos extraños.
- No usar el equipo en ambientes húmedos. No operar el equipo en ambientes donde se espere la formación de rocío o condensación.
- No tocar durante el funcionamiento ni inmediatamente después del apagado. El calor de la superficie puede causar quemaduras graves.

Leggere prima questa parte!

Italiano

Prima di collegare il sistema di alimentazione elettrica si prega di leggere attentamente le seguenti avvertenze. Conservare le istruzioni per la consultazione futura. Il sistema di alimentazione elettrica deve essere installato solo da personale competente e qualificato. Se durante il funzionamento si verificano anomalie o guasti, scollegare immediatamente la tensione di alimentazione. In entrambi i casi è necessario far controllare l'apparecchio dal produttore! I dati sono indicati solo a scopo descrittivo del prodotto e non vanno considerati come caratteristiche garantite dell'apparecchio. In caso di differenze o problemi è valido il testo inglese.



AVVERTENZA

Il mancato rispetto delle seguenti norme può provocare folgorazione elettrica, incendi, gravi incidenti e perfino la morte:

- Prima di eseguire interventi di installazione, di manutenzione o di modifica scollegare la tensione di rete ed adottare tutti i provvedimenti necessari per impedirne il ricollegamento non intenzionale.
- Non tentare di aprire, di modificare o di riparare da soli l'apparecchio.
- Impedire la penetrazione di corpi estranei nell'apparecchio, ad esempio fermagli o altri oggetti metallici.
- Non far funzionare l'apparecchio in un ambiente umido. Non far funzionare l'apparecchio in un ambiente soggetto alla formazione di condensa o di rugiada.
- Non toccare quando acceso e subito dopo lo spegnimento. La superficie calda può causare scottature.

Leia primeiro!

Português

Recomendamos a leitura cuidadosa das seguintes advertências e observações, antes de colocar em funcionamento a fonte de alimentação. Guarde as Instruções para futura consulta, em casos de dúvida. A fonte de alimentação deverá ser instalada apenas por profissionais da área, tecnicamente qualificados. Se por acaso, durante a utilização ocorrer algum defeito de funcionamento ou dano, desligue imediatamente a tensão de alimentação. Em ambos os casos, será necessária uma verificação na Fábrica! Os dados mencionados têm como finalidade somente a descrição do produto, e não devem ser interpretados como propriedades garantidas no sentido jurídico. Em caso de dúvidas aplica-se o texto em inglês.



ATENÇÃO

A não observância ou o incumprimento dos pontos a seguir mencionados, poderá causar uma descarga elétrica, incêndios, acidentes graves ou morte:

- Antes de trabalhos de instalação, manutenção ou modificação, desligue a tensão de alimentação, protegendo-a contra uma nova ligação involuntária.
- Não efectue nenhuma modificação ou tentativa de reparação no aparelho. Quando necessário contacte o seu distribuidor. Não abra o aparelho.
- Proteger a fonte de alimentação contra a introdução inadvertida de corpos metálicos, como por ex., cliques ou outras peças de metal.
- Não usar o aparelho em ambientes húmidos. Não usar o aparelho em ambientes propensos a condensações.
- Não tocar enquanto estiver em funcionamento, nem após a desligar. A superfície poderá estar quente e provocar lesões.

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China +86 512 62881820

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North America +1 630 587 9780

Austria +43 2764 3213
Singapore +65 6684 2310

Switzerland +41 56 450 18 10
United Kingdom +44 1525 841001

The information in this document is believed to be accurate and reliable and may change without notice.

Product Description

The CP5.241 is a DIN-rail mountable single-phase-input power supply, which provides a floating, stabilized and galvanically separated SELV/PELV/ES1 output voltage.

The CP5.241-C1 device is the same as the CP5.241 but with conformal coated pc-boards.

Intended Use

This device is designed for installation in an enclosure and is intended for commercial use, such as in industrial control, process control, monitoring, measurement, Audio/Video, information or communication equipment or the like. Do not use this device in equipment, where malfunctioning may cause severe personal injury or threaten human life without additional appropriate safety devices, that are suited for the end-application.

If this device is used in a manner outside of its specification, the protection provided by the device may be impaired.

Installation Instructions

Install device in an enclosure providing protection against electrical, mechanical and fire hazards.

Install the device onto a DIN-rail according to EN 60715 with the input terminals on the bottom and the output terminals on the top of the device. Other mounting orientations require a reduction in output current.

Make sure that the wiring is correct by following all local and national codes. Use appropriate copper cables that are designed for a minimum operating temperature of 60°C for ambient temperatures up to +45°C, 75°C for ambient temperatures up to +60°C and 90°C for ambient temperatures up to +70°C. Ensure that all strands of a stranded wire enter the terminal connection. Use ferrules for wires on the input terminals. Unused screw terminals should be securely tightened.

The device is designed for pollution degree 2 areas in controlled environments. No condensation or frost is allowed.

The enclosure of the device provides a degree of protection of IP20. The housing does not provide protection against spilled liquids.

The isolation of the device is designed to withstand impulse voltages of overvoltage category III according to IEC 60664-1.

The device is designed as "Class of Protection I" equipment according to IEC 61140. Do not use without a proper PE (Protective Earth) connection.

The device is suitable to be supplied from TN, TT or IT mains networks. The continuous voltage between the input terminal and the PE potential must not exceed 300Vac.

The input can also be powered from batteries or similar DC sources. The continuous voltage between the supply voltage and the PE/ground potential must not exceed 360Vdc.

A disconnecting means shall be provided for the input of the device.

The device is designed for convection cooling and does not require an external fan. Do not obstruct airflow and do not cover ventilation grid!

The device is designed for altitudes up to 5000m (16400ft). Above 2000m (6560ft) a reduction in output current and over voltage category is required.

Keep the following minimum installation clearances: 40mm on top, 20mm on the bottom, 5mm left and right side. Increase the 5mm to 15mm in case the adjacent device is a heat source. When the device is permanently loaded with less than 50%, the 5mm can be reduced to zero.

The device is designed, tested and approved for branch circuits up to 32A (IEC) and 30A (UL) without additional protection device. If an external fuse is utilized, do not use circuit breakers smaller than 6A B- or C-Characteristic to avoid a nuisance tripping of the circuit breaker.

The maximum surrounding air temperature is +70°C (+158°F). The operational temperature is the same as the ambient or surrounding air temperature and is defined 2cm below the device.

The device is designed to operate in areas between 5% and 95% relative humidity.

Installation Instructions for Hazardous Location Areas

The device is suitable for use in Class I Division 2 Groups A, B, C, D locations and for use in Group II Category 3 (Zone 2) environments.

Classification: ATEX: EPS 19 ATEX 1 201 X, II 3G EX ec nC IIC T4 Gc / IECEx EPS 19.0078X

WARNING EXPLOSION HAZARDS!

Use only in standard vertical mounting orientation with the input terminals on bottom of the unit.

Substitution of components may impair suitability for this environment.

Do not disconnect the device or operate the voltage adjustment unless power has been switched off or the area is known to be non-hazardous.

A suitable enclosure must be provided for the end product which has a minimum protection of IP54 and fulfils the requirements of the EN 60079-0.

Functional Description

The output is electronically protected against no-load, overload and short circuit and can supply any kind of loads, including inductive and capacitive loads. If capacitors with a capacitance >0.3F are connected, the unit might charge the capacitor in an intermittent mode (Hiccup behavior).

Do not apply return voltages from the load to the output higher than 35V.

The output voltage can be adjusted with a small flat-blade screwdriver on the front.

The green DC OK LED reports an output voltage above 90% of the adjusted voltage of a running device.

The DC OK relay monitors the output voltage and the contact is closed when the DC OK LED is on. Contact ratings: 60Vdc 0.3A, 30Vdc 1A, 30Vac 0.5A for resistive loads.

The device is equipped with an over-temperature protection. In case of a high temperature, the output shuts down and starts automatically after cooling off.

At heavy overloads (when output voltage falls below 13V), the device delivers continuous output current for 1s. After this, the output is switched off for approx. 9s before a new start attempt is automatically performed. This cycle is repeated as long as the overload exists.

Devices can be paralleled to increase the output power. The ambient temperature is not allowed to exceed 40°C. The output voltage shall be adjusted to the same value ($\pm 100\text{mV}$) with the same load conditions on all devices, or the devices can be left with the factory settings. Energize all units at the same time. It might be necessary to cycle the input power (turn-off for at least five seconds), if the output was in overload or short circuit. If more than three devices are connected in parallel, a diode, fuse or circuit breaker with a rating of 10A is required on each output.

Same devices can be connected in series for higher output voltages. It is allowed to connect as many devices in series as needed, providing the sum of the output voltage does not exceed 150Vdc.

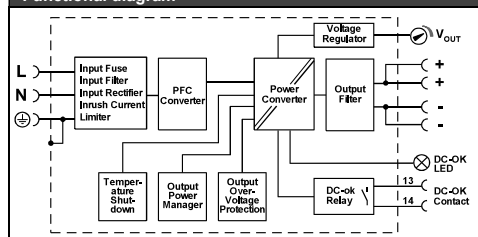
In case of an internal defect, a redundant circuit limits the maximum output voltage to 32V. The output switches off and performs three restart attempts. If the failure continues, the output shuts down. Cycle input power to reset.

Technical data

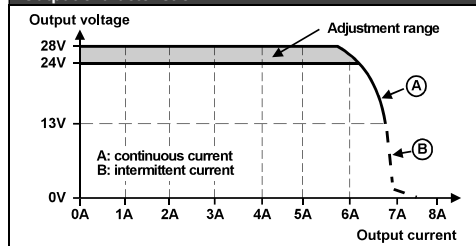
All values are typical figures specified at 230Vac 50Hz input voltage, 24V 5A output load, 25°C ambient temperature and after a 5 minutes run-in time unless otherwise noted.

Output voltage	DC 24V	Nominal
Adjustment range	24 – 28Vdc	Factory setting 24.1V
Output current	6.0 – 5.1A	Below +45°C ambient
	5.0 – 4.3A	At +60°C ambient
	3.8 – 3.2A	At +70°C ambient
	Derate linearly between +45°C and +70°C	
Input voltage AC	AC 100 - 240V	-15% / +10%
Mains frequency	50 – 60Hz	$\pm 6\%$
Input current AC	1.09 / 0.6A	At 120 / 230Vac
Power factor	0.98 / 0.91	At 120 / 230Vac
Input voltage DC	DC 110 - 150V	$\pm 20\%$
Input current DC	1.21A	At 110Vdc
Input inrush current	5 / 6A pk	At 120 / 230Vac, 40°C, cold start
Efficiency	93.6 / 94.3%	At 120 / 230Vac
Power losses	8.2 / 7.3W	At 120 / 230Vac
Hold-up time	35 / 35ms	At 120 / 230Vac
Temperature range	-25 to +70°C	
Max. wire size (litz wire)	4mm ²	Power terminals
Wire size AWG	AWG 20-10	Power terminals
Maximum wire diameter	2.8mm	Power terminals
Wire stripping length	7mm / 0.28inch	Power terminals
Tightening torque	1Nm / 9lb.inch	Power terminals
Max. wire size (litz wire)	1.5mm ²	DC-OK terminals
Wire size AWG	AWG 24-16	DC-OK terminals
Max. wire diameter	1.6 mm	DC-OK terminals
Wire stripping length	7mm / 0.28inch	DC-OK terminals
Size (wxhxd)	32x124x102mm	Without DIN-rail
Weight	440g / 0.97lb	

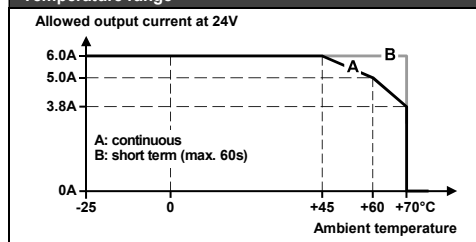
Functional diagram



Output characteristic



Temperature range



Appendix L - EU Declaration of Conformity

A printed version of the Declarations of Conformity has been provided separately within the original shipment of goods. However, you can find a copy of the latest version at-

<http://www.mtl-inst.com/certificates>

Appendix M - returns (RMA order)

Dear Customer

Should you find your goods are defective or require a warranty repair, please complete the on-line form on our website at www.eaton.com/resources/rma to obtain a RMA reference for the return of your goods

Please note that the processing of your return will take longer if goods are sent back to us without a valid RMA number. An RMA number must be included so that your return can be processed quickly and efficiently.

Please have the following information ready:

- Product name and serial number – you may enter multiple answers where there is more than one product
- An error description with as much detail as possible
- Contact information (responsible person(s) and shipping address)

If you have submitted the form, you shall receive two emails:

- A confirmation email (IMPORTANT: Please check your junk mailbox)
- An email with the RMA number to be used (this will be sent to you as soon as possible)

Please make the RMA number clearly visible on the package and also include this on the delivery note.

	WARNING! Please ensure prior to returning defective devices that the goods being sent back were not used in areas harmful to health and were cleaned according to the applicable provisions of the Occupational Health and Safety Act.
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Suitable packaging material can be provided for the return for a surcharge.

Please send the goods, with the RMA number clearly visible on the package, to the following address:

Eaton's Crouse-Hinds division
SC COOPER INDUSTRIES ROMANIA SRL
Attn: Customer Service Department
Zona Industrială Vest,
Str. III, Nr.12 Arad,
Romania 310510

If you require further assistance, please use our product support form, which can be found within the resource section at www.eaton.com, alternatively you can call us on:

+49 2921 69274

Thank you

Your Customer Service Department Team

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The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.