

ComEx control and indicating station

Type 07-352*-*****



ComEx control and indicating station

Typ 07-352*-*****



Instruction notes

When working in potentially explosive areas, the safety of people and systems depends on compliance with the relevant safety regulations. Persons responsible for assembly and maintenance bear a special responsibility. A prerequisite for this is precise knowledge of the applicable rules and regulations.

The instructions summarise the most important safety measures and must be read by everyone working with the product in order to make sure that they are familiar with the correct handling of the product.

The instructions must be retained and must be available throughout the life of the product.

Description

ComEx is a flexible system that offers both standardised and customised local control and indicating station.

The standard enclosures, 1-fold (07-352A-.../07-352D-...), 2-fold (07-352B-.../07-352E-...) and 3-fold (07-352C-.../07-352F-...) can be combined with the various actuators, potentiometer, switch and light modules.

The types of actuators and modules which are installed in the ComEx control and indicating station can be identified by using the selection keys in the data sheet.

Explosion protection

Notified Body Number	CE 0044
Approved Body Number	2503
ATEX/UKEX Ex protection type	Ⓜ II 2G Ex db eb IIC T6 Gb Ⓜ II 2G Ex db ia IIC T6 Gb Ⓜ II 2D Ex tb IIIC T80 °C Db
ATEX/UKEX certificate number	CML 21ATEX31165X CML 22UKEX3259X
IECEX Ex protection type	Ⓜ db eb IIC T6 Gb Ⓜ db ia IIC T6 Gb Ⓜ tb IIIC T80 °C Db
IECEX certificate number	IECEX CML 21.0132X
CEC (UL Mark)	Ex db eb IIC Gb Ex db ia IIC T6 Gb Ex tb IIC T80 °C Db Class I, Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G Class III, Division 2, T6, T80 °C
NEC (UL Mark)	Class I, Zone 1, AEx db eb IIC T6 Gb Class I, Zone 1, AEx db ia IIC T6 Gb Zone 21, AEx tb IIIC T80 °C Db
UL certificate number	UL E184198
Ambient temperature	Please see special conditions of use
Service temperatur	- Enclosure, Module: -55 °C to +85 °C - Actuators: -55 °C to +70 °C - Cable gland / blanking plug: up to +70 °C or +75 °C
Product printing	Standard: ATEX, UKEX, IECEX and UL marking Other markings on request

For further approvals and certificates, see bartec.com

Technical data

Degree of protection	IP64 (type 07-352, followed by A, B, C, G, H or I, followed by additional suffixes) resp. IP20 (type 07-352, followed by D, E, F, J, K or L, followed by additional suffixes) and Type 4X, only at the following rated torques: - conduit adaptor, threaded sleeve 10 Nm - enclosure screws 1.2 Nm - potential equalisation, external 5 Nm - actuator (fixing nut) 2.8 - 3.4 Nm - cable gland - see manufacturer specification
Altitude	up to 2000 m
Terminals	0.75 mm ² - 2.5 mm ² /18 AWG - 12 AWG
Nominal torque of the screws	- Module clamps: 0.4 - 0.7 Nm - PE support: 0.4 - 0.7 Nm - Grounding plate: 0.4 - 0.7 Nm - Cable adapter: 0.4 - 0.7 Nm
Dimensions	Please see page 10.

Further technical data can be found in the documentation for the separately certified cable glands and dummy elements used.

Technical data

For type 07-352, followed by A, B, C, G, H or I, followed by additional suffixes:	
Nominal values for installed switch module types 07-3322-1**0/**** and 07-3382-****/****:	
Rated insulation voltage, U_0/U	400/690 V
Rated insulation voltage U_i	400/690 V
Impulse withstand voltage	4 kV
Overvoltage category	II
Rated current ¹⁾	up to 16 A
Contact rating	A600, Q150 16 A, 400 Vac General use 6 A, 24 Vdc Pilot Duty 2 A, 60 Vdc Pilot Duty 1 A, 110 Vdc Pilot Duty 0.75 A, 230 Vdc General use

¹⁾ The maximum permissible electrical power must not exceed the values according to the arrangement tables on pages 7, 8 and 9 for the corresponding maximum ambient temperatures and the configurations of the ComEx control and indicating station.

Data for installed illuminated indicator modules of type 07-3352-11*0/**** and illuminated push button modules of type 07-3362-17*0/**** and 07-3362-18*0/** **	
Rated current, U	230 V
Operating voltage, U	250 V
Rated insulation voltage, U_i	300 V
Impulse withstand voltage	1.5 kV
Overvoltage category	I
Rated operating voltage, U_e (indicator)	12 V to 230 Vac/dc
Rated current (switch)	up to 1 A
Contact rating	R150, D300 24 Vdc 0.25 A Pilot Duty

Data for built-in illuminated push button modules of type 07-3362-11*0/**** and 07-3362-12*0/****:	
Rated current, U	30 V
Rated insulation voltage, U_i	30 V
Rated operating voltage, U_e (indicator)	DC 12 V bis 30 V
Rated current (switch)	up to 1 A
Contact rating	R150 24 Vdc 0.25 A Pilot Duty

Data for built-in potentiometer modules of type 07-3372-1D*0/****:	
Rated voltage, U	250 V
Rated insulation voltage, U_i	250 V
Rated power dissipation	up to 0.35 W @ $T_a \leq +60^\circ\text{C}$ 1 W @ $T_a \leq +40^\circ\text{C}$

Technical data

For type 07-352, followed by D, E, F, J, K or L, followed by additional suffixes:	
Specifications for built-in illuminated indicator modules of type 07-3352-14*0/* ** and illuminated push button modules of type 07-3362-15*0/**** and 07-3362-16*0/****:	
Rated voltage, U	30 V
Rated insulation voltage, U_i	30 V
Rated operating voltage, U_e (indicator)	DC 12 V to 30 V
Contact rating	R150 24 Vdc 0.25 A Pilot Duty
Impulse withstand voltage	4 kV
Overvoltage category	II
Rated current ¹⁾	up to 16 A
Contact rating	A600, Q150 16 A, 400 Vdc Pilot Duty 2 A, 60 Vdc Pilot Duty 1 A, 110 Vdc Pilot Duty 0.75 A, 230 Vdc General use

¹⁾ The maximum permissible electrical power must not exceed the values according to the arrangement tables on pages 7, 8 and 9 for the corresponding maximum ambient temperatures and the configurations of the ComEx control and indicating station.

Intrinsically safe parameters, maximum values per circuit (EPL Ga)	
Max. input voltage (U_i)	30 V
Max. input current (I_i)	150 mA
Max. input power (P_i)	1 W
Internal inductance (L_i)	negligible
Internal capacitance (C_i)	- Indicator 37 nF - Switch negligible

Safety instructions

The ComEx control and indicating station may only be used within the specified temperature range.

Unprotected, incorrect installation may result in malfunctions or loss of explosion protection.

The connection and installation/disassembly of the ComEx control and indicating station must be carried out by qualified personnel who are authorised and trained to install electrical components in potentially explosive atmospheres.

Use in any areas other than those specified or modification of the product by anyone other than the manufacturer releases BARTEC from liability for defects and further liability.

When setting up or operating explosion-protected electrical systems, the relevant installation and operating regulations must be observed.






The generally applicable legal rules and other binding guidelines on occupational safety, accident prevention and environmental protection must be observed.

The ComEx control and indicating station may only be operated in a clean, undamaged condition. Any modifications and alterations are not permitted.

When using intrinsically safe devices, a corresponding barrier is mandatory. The relevant electrical limit values for “intrinsic safety” must be observed.

Marking

Particularly important points in these instructions are marked with a symbol:

	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	NOTICE is used to address practices not related to personal injury.
	NOTE Important instructions and information on effective, economical and environmentally compatible handling.

Standards conformed to

UL 60079-0 Ed.7 / CSA C22.2 No. 60079-0 Ed.4

UL 60079-1 Ed.7 / CSA-C22.2 No. 60079-1 Ed.3

UL 60079-7 Ed.5 / CSA-C22.2 No. 60079-7 Ed.2

UL 60079-11 Ed.6 / CSA-C22.2 No. 60079-11 Ed.2

UL 60079-31 Ed.2 / CSA-C22.2 No. 60079-31 Ed.2

UL 121201 Ed.9 / CSA C22.2 No. 213-17 Ed.3

UL 60947-1 Ed.5 / CSA-C22.2 No. 60947-1 Ed.2

UL 60947-5-1 Ed.3 / CSA-C22.2 No. 60947-5-1 Ed.3


UL 60947-5-5 Ed.1 / IEC 60947-5-1 Ed.1

UL 50 Ed. 13 / CSA-C22.2 No. 94.1-15 Ed.2

UL 50E Ed. 3 / CSA-C22.2 No. 94.2-20 Ed.4

CSA-C22.2 No. 14-18 Ed.13.


Assembly, installation and commissioning

	<p>WARNING</p> <p>Risk of serious injury due to incorrect procedures.</p> <ul style="list-style-type: none"> • Work on assembly, disassembly, installation and commissioning may only be carried out by authorised specialist personnel. • Suitable tools shall be used.
---	--

Assembly/Disassembly

Prior to the assembly/disassembly, it must be ensured that the ComEx control and indicating station is in s condition (no cracks or damage).

Installation

	<p>NOTE The connection of the device must be carried out in accordance with the information in the applicable operating instructions for the built-in devices.</p> <p>The applicable operating instructions can be downloaded from www.bartec.com or ordered directly from BARTEC GmbH.</p>
---	--

The ComEx command and display devices must be installed stationary.

A maximum of two ComEx command and display devices can be connected with a sleeve that holds the enclosures together.

The following special conditions must be observed:

- The ComEx control and indicating station must be installed in such a way that they are protected against electrostatic charging. The metal input devices must be earthed.
- The ComEx control and indicating station type 07-352, followed by A, B, C, G, H or I, followed by additional suffixes, must not be connected with a sleeve fixing to the ComEx control and indicating station type 07-352, followed by J, K or L, followed by additional suffixes, equipped with cable glands.
- The internal wiring that could come into contact with a conductive part must be mechanically protected, sealed or laid in such a way that the insulation is not damaged.
- The minimum ambient temperature for the ComEx control and indicating station must be above or equal to the minimum ambient temperature for the separately certified cable glands and blanking plugs, but above or equal to -55 °C. The maximum ambient temperature for the ComEx control and indicating station must be below or equal to 40 °C and 60 °C respectively.
- The connection cables must have a minimum operating temperature less than or equal to the minimum ambient temperature of the ComEx control and indicating station and a maximum operating temperature greater than or equal to 80 °C.
- The technical data of the separately certified cable glands and blanking plugs in accordance with the manufacturer's specifications must be observed values.

- The maximum permissible currents must not exceed the values specified in the layout tables for the maximum ambient temperatures and the configurations of the ComEx control and indicating station.
- Each terminal of the module is limited to one conductor per terminal.
- The values U_0 , I_0 , C_0 and L_0 of an approved Intrinsically Safe Apparatus connected to the ComEx control and indicating station must not exceed the permissible maximum values specified in UL 60079-11 / CSA C22.2 No. 60079-11 and UL 60079-25 / CSA C22.2 No. 60079-25, if applicable, for the zone(s) and group(s) of the corresponding hazardous areas of the location of the ComEx control and indicating station.
- The intrinsically safe circuits are galvanically isolated from each other in accordance with UL 60079-11 / CSA C22.2 No. 60079-11.
- The internal wiring must be carried out in such a way that the distance between the bare conductive parts of a cable lug mounted on the feed-through terminal for earthing and all other terminals is at least 10 mm.

The cables must be connected carefully, i.e.:

- The insulation must extend to the terminal.
- It must be ensured that the conductor is not damaged.
- All screws on the connection terminals, including those that are not in use, must be tightened securely.

All unused cable entries must be sealed with a certified plug.



NOTE Avoid any capacitive interference from parallel conductors and additional heat on the cable.

Special care must be taken when connecting the conductors:

- Remove approx. 6 mm of the conductors from the insulation for modules or 8 mm for PE support and earthing plate conductors.
- Prepare the ends of fine-stranded and stranded conductors: Crimp the wire end ferrules by using suitable crimping tools.

Connection cross-sections: 0.75 - 2.5 mm² / 18 - 12 AWG

- Loosen the terminals.
- Insert the conductor.
- Tighten the terminals with a maximum torque of 0.4 - 0.7 Nm (0.3 - 0.5 lb.ft)

Commissioning

The following points must be observed before installation work may be commenced:

- The device is installed correctly
- The device is not damaged.
- The connection compartment is clean.
- The connection has been carried out correctly.
- The cables have been laid correctly.
- All screws are firmly tightened.



NOTE The spare parts, attachments or switching and lighting modules are listed in the data sheet.

Operation



DANGER

Death or risk of injury due to improper use.

- The ComEx control and indicating station may only be operated within the applicable technical limits (see page 1).

Transport and storage



NOTICE

Damage to the ComEx control and indicating station due to incorrect transport or incorrect storage.

- Transport and storage is permissible in original packaging only.

Maintenance and Troubleshooting



WARNING

Risk of serious injury due to incorrect procedure.

- Any maintenance and troubleshooting work may only be carried out by authorised specialist personnel.
- NEC/CEC must be observed. It is recommended to formulate a maintenance plan according to this standard.

Maintenance

The operator of the ComEx control and indicating station must keep it in good condition, operate it properly, monitor it, clean it and check it regularly for any cracks and/or damage.

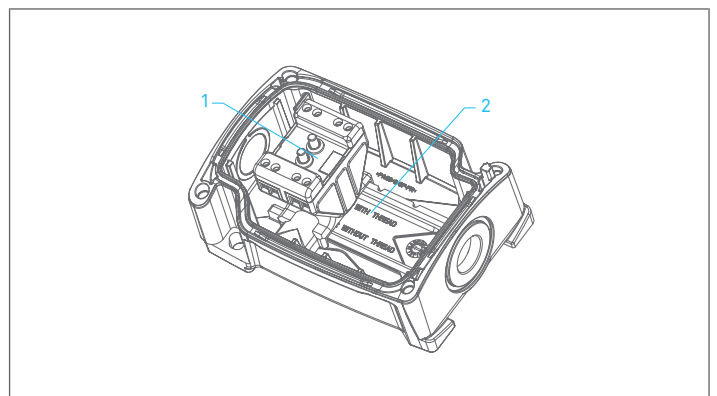
Fault Clearance

The ComEx control and indicating station is defective if it is cracked and/or damaged.

Damaged or defective control and display devices cannot be repaired. They must be replaced in accordance with this user manual.

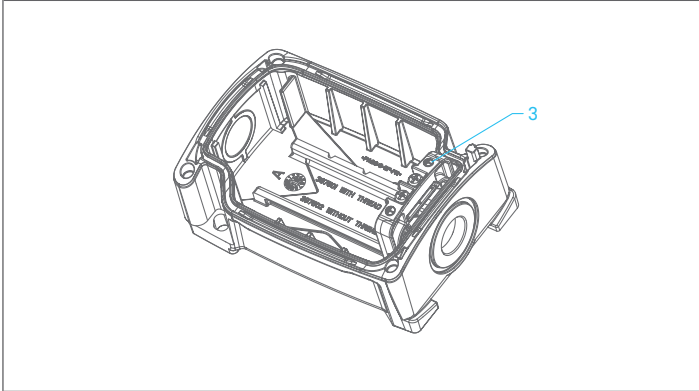
Replacing/installing any components

Built-in enclosure



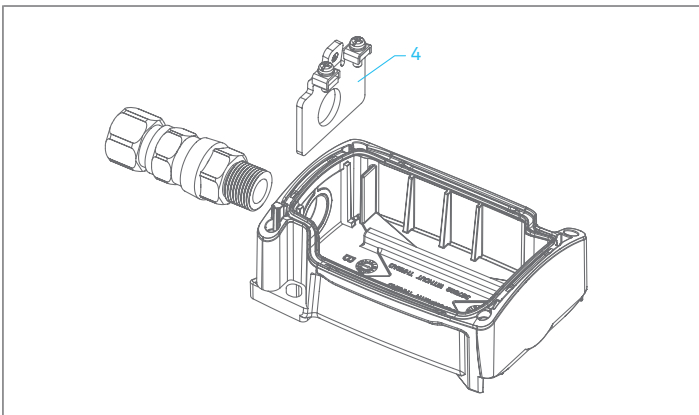
Snap the ComEx modules onto the mounting rail of the enclosure so that the detent lug is positioned in the recess of the mounting rail. Please see also the operating instructions for the individual modules.

PE carrier



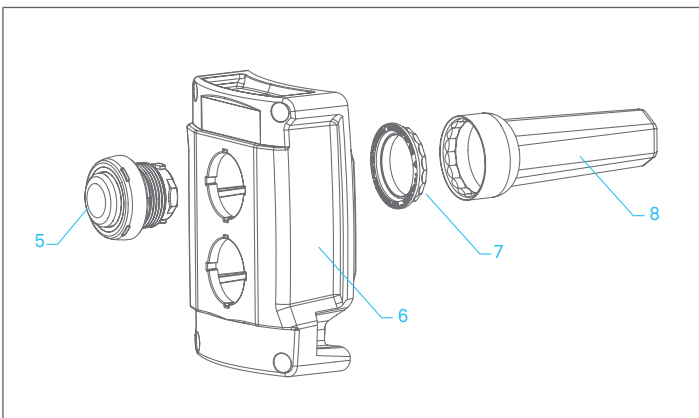
Insert the PE support (3) for the PE conductor connection either in the upper or lower area of the enclosure. Slide it onto the designated fins.

Grounding plate



Insert the grounding plate (4) for metal cable entries between the bar and the inner wall of the enclosure. The grounding plate is secured by screwing in the cable entry.

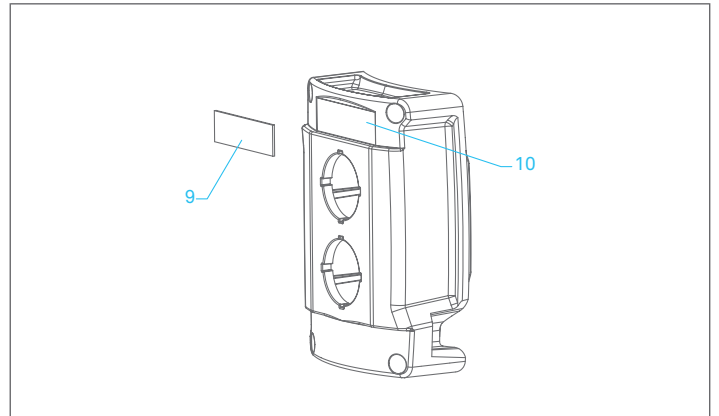
Actuator attachments



NOTE The position of the ComEx modules must match the corresponding actuator attachment.

Insert the actuating attachments (5) with the locking lug into the recess in the enclosure cover (6) and screw it in place with the fastening nut (7). The assembly is carried out by using the nut spanner (8). Please also see the operating instructions for the actuator attachments, type 07-3400-****

Labelling plate



Engrave or manually label the labelling plates (9). Glue the labelling plates into the recess provided in the enclosure cover (10).

Accessories, spare parts

Please see the BARTEC catalogue.

Disposal

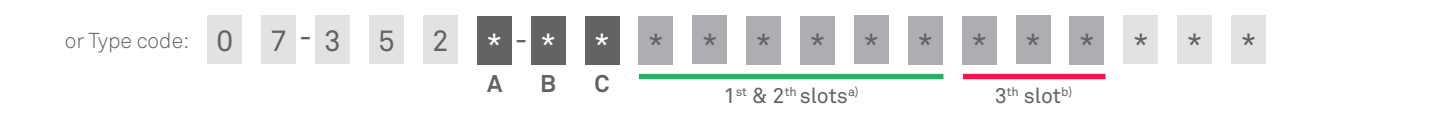
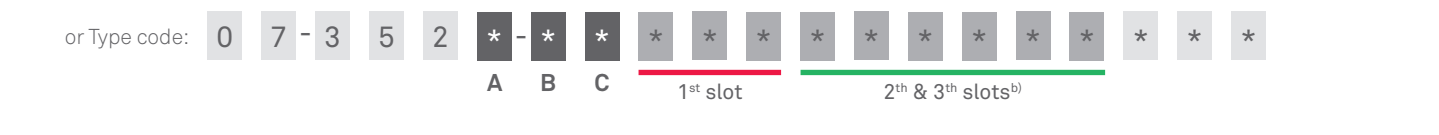
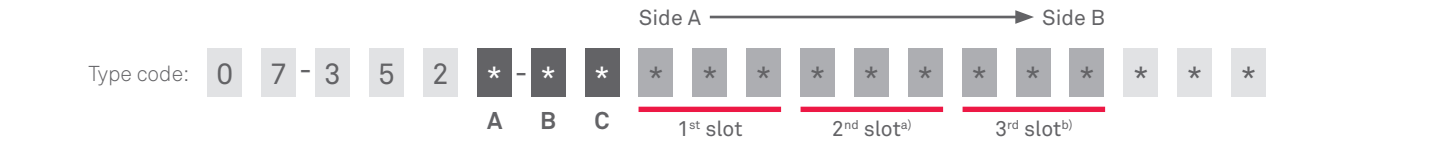
The components of the ComEx control and indicating station (actuating elements, modules and enclosure) contain metal, glass and plastic parts. Therefore, the legal requirements for the disposal of electronic waste must be observed (e.g. disposal by an approved disposal company).

Service address

BARTEC GmbH
 Max-Eyth-Str. 16
 97980 Bad Mergentheim
 Germany
 Phone: +49 7931 597 0
 info@bartec.com



Selection key of the ComEx control and indicating station



A	Enclosure size, certification, operation mode	B resp. C	Entry device, enclosure side B resp. A
	A – Single, CEC/NEC, non-intrinsically safe, B – Double, CEC/NEC, non-intrinsically safe C – Triple, CEC/NEC, non-intrinsically safe D – Single, CEC/NEC, intrinsically safe E – Double, CEC/NEC, intrinsically safe F – Triple, CEC/NEC, intrinsically safe G – Single, CEC/NEC, non-intrinsically safe, -50 °C H – Double, CEC/NEC, non-intrinsically safe, -50 °C I – Triple, CEC/NEC, non-intrinsically safe, -50 °C J – Single, CEC/NEC, intrinsically safe, -50 °C K – Double, CEC/NEC, intrinsically safe, -50 °C L – Triple, CEC/NEC, intrinsically safe, -50 °C		0 – Without 1 – Side B: 1 x M20, plastic ^{c)} or hole for connection Side A: 1 x M20, plastic ^{c)} 2 – 1 x M25, plastic ^{c)} 3 – 2 x M20, plastic ^{c)} 5 – 1 x M20, meta ^{c)} 6 – 1 x M25, metal ^{c)} 7 – 2 x M20, metal ^{c)} 8 – Side B: not applicable Side A: enclosure connection 9 – Special version ^{c)} A – Conduit adapter ½" NPT B – Conduit adapter ¾" NPT C – 1 x M16, plastic ^{c)} D – 2 x M16, plastic ^{c)} E – 3 x M16, plastic ^{c)} F – 1 x M32, plastic ^{c)} G – 1 x M20, plastic and 1 x M25, plastic ^{c)} H – 1 x M16, plastic and 1 x M25, plastic ^{c)} J – 1 x M20, metal, special version ^{c)} K – 1 x M25, metal, special version ^{c)} L – 2 x M20, metal, special version ^{c)}
		1 st , 2 nd & 3 rd slot	Single-slot actuators & modules combinations
		1 st & 2 nd slots or 2 nd & 3 rd slots	Double-slot actuators & modules combinations

^{a)} Only for ComEx control and indicating station type 07-352, followed by B, C, E or F, followed by additional suffixes.
^{b)} Only for ComEx control and indicating station type 07-352, followed by C or F, followed by additional suffixes.
^{c)} Only for ComEx control and indicating station type 07-352, followed by G, H, I, J, K or L, followed by additional suffixes.

Selection key of the ComEx control and indicating station

1st & 2nd slots or 2nd & 3rd slots – double-slot actuators & modules combinations^{d)}

* * * * *	Actuator	Module
A * * V * *	Push button type 07-3400-A***/* ^{d)}	Switch module type 07-3382-***/* ^{d)}
E * * V * *	Key selector switch type 07-3400-E***/* ^{d)}	
N * * V * *	Emergency stop pull to release type 07-3400-N***/* ^{d)}	
P * * V * *	Mushroom push button type 07-3400-P***/* ^{d)}	
S * * V * *	Selector switch type 07-3400-S***/* ^{d)}	

1st, 2nd and 3rd slot – single-slot actuators & modules combinations

* * *	Actuator	Module
0 * 0	without actuator	
B * 0	Blind plug type 07-3400-B***/* ^{d)}	without module
A * *	Push button type 07-3400-A***/* ^{d)}	
C * *	Double push button type 07-3400-C***/* ^{d)}	
E * *	Key selector switch type 07-3400-E***/* ^{d)}	
N * *	Emergency stop pull to release type 07-3400-N***/* ^{d)}	Switch module type 07-3322-1**0/* ^{d)}
P * *	Mushroom push button type 07-3400-P***/* ^{d)}	
R * *	Emergency stop twist to release type 07-3400-R***/* ^{d)}	
S * *	Selector switch type 07-3400-S***/* ^{d)}	
D * *	Potentiometer type 07-3400-D***/* ^{d)}	Potentiometer module type 07-3372-1D*0/* ^{d)}
L * *	Pilot light type 07-3400-L***/* ^{d)}	Illuminated indicator module type 07-3352-11*0/* ^{d)} or type 07-3352-14*0/* ^{e)}
T * A		Illuminated push button module type 07-3362-17*0/* ^{d)} or type 07-3362-15*0/* ^{e)}
T * B	Illuminated push button type 07-3400-T***/* ^{d)}	Illuminated push button module type 07-3362-18*0/* ^{d)} or type 07-3362-16*0/* ^{e)}
T * C		Illuminated push button module type 07-3362-11*0/* ^{d)}
T * D		Illuminated push button module type 07-3362-12*0/* ^{d)}

^{d)} Only for ComEx control and indicating station type 07-352, followed by A, B, C, G, H or I, followed by additional suffixes.

^{e)} Only for ComEx control and indicating station type 07-352, followed by D, E, F, J, K or L, followed by additional suffixes.

Selection procedure for the implementation of permissible cabling combinations

ComEx stations in one enclosure (with one to three modules)

Ambient temperature	Maximum service temperature of cable glands	Maximum rated current [A] per core with core cross-section [mm ²]							Maximum total length of the cores in the enclosure [m]			Maximum number of wires (pcs.)
		≥ 0.75	≥ 1	≥ 1.5	≥ 2.5	AWG			One-3-fold enclosure	One-2-fold enclosure	One-1-fold enclosure	
						18	16	14				
≥ 40 °C	≥ 70 °C	7.9	9.1	11.3	14.7	8.3	10.5	13.4	1,44	0,96	0,48	4
		4.5	5.6	7.3		5.2	6.7		2,88	1,92	0,96	8
		2.8	3.6			3.3			5,76	3,84	1,92	16
		1.8							11,52	7,68	3,84	32
	≥ 75 °C	8.5	9.9	12.2	15.9	8.9	11.4	14.4	1,44	0,96	0,48	4
		4.9	6.1	7.9		5.7	7.2		2,88	1,92	0,96	8
		3.0	3.9			3.6			5,76	3,84	1,92	16
		2.0							11,52	7,68	3,84	32
≥ 60 °C	≥ 70 °C	4.6	5.4	6.6	8.6	4.8	6.2	7.8	1,44	0,96	0,48	4
		2.7	3.3	4.3		3.1	3.9		2,88	1,92	0,96	8
		1.6	2.1			1.9			5,76	3,84	1,92	16
		1.0							11,52	7,68	3,84	32
	≥ 75 °C	5.7	6.6	8.1	10.6	5.9	7.6	9.6	1,44	0,96	0,48	4
		3.3	4.0	5.3		3.8	4.8		2,88	1,92	0,96	8
		2.0	2.6			2.4			5,76	3,84	1,92	16
		1.3							11,52	7,68	3,84	32

Determination guide:

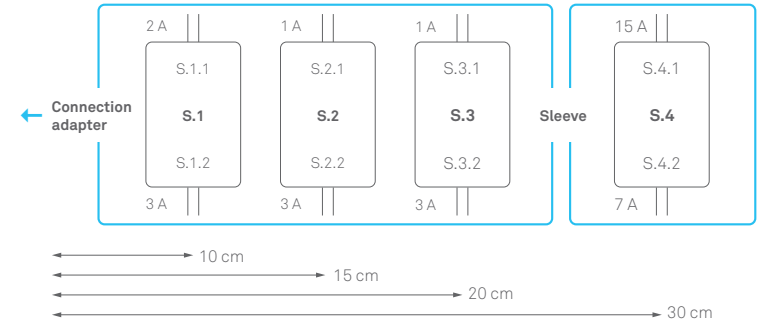
1. The conductor cross-sections are to be determined from the selection table for each circuit depending on the given rated currents.
2. The utilisation of the conductor length must be calculated. In order to do this, the maximum permissible conductor lengths must be determined from the selection table for each circuit, divided by the corresponding given conductor lengths and added together. If the utilisation exceeds 100%, the cables must be distributed between additional KLE. Alternatively cables with a larger cross-section must be selected.
3. The utilisation of the number of cables must be calculated per cable gland/flange sleeve. In order to do this, the maximum permissible number of cables must be determined from the selection table for each circuit, divided by the corresponding given number of cables and added together. If the utilisation per entry exceeds 100%, the cables must be distributed between additional entries. Alternatively, cables with a larger cross-section must be selected.

ComEx stations in two enclosures (with two to six modules)

Ambient temperature	Maximum service temperature of cable glands	Maximum rated current [A] per core with core cross-section [mm ²]							Maximum total length of the cores in the enclosure [m]					Maximum number of wires	
		≥ 0.75	≥ 1	≥ 1.5	≥ 2.5	AWG			Two 3-fold enclosure	One 3-fold and one 2-fold enclosure	Two 2-fold or one 3-fold and one 1-fold enclosure	One 2-fold and one 1-fold enclosure	Two 1-fold enclosure	Cable gland (pcs.)	Flange sleeve (pcs.)
						18	16	14							
≥ 40 °C	≥ 70 °C	7.5	8.8	11.0	14.7	7.9	10.2	13.2	3.6	3	2.4	1.8	1.2	4	6
		4.4	5.5	7.3		5.1	6.6		7.2	6	4.8	3.6	2.4	8	12
		2.7	3.6			3.3			14.4	12	9.6	7.2	4.8	16	24
		1.8							28.8	24	19.2	14.4	9.6	32	48
	≥ 75 °C	8.1	9.5	11.7	15.3	8.5	10.9	13.9	3.6	3	2.4	1.8	1.2	4	6
		4.7	5.8	7.6		5.4	6.9		7.2	6	4.8	3.6	2.4	8	12
		2.9	3.8			3.4			14.4	12	9.6	7.2	4.8	16	24
		1.9							28.8	24	19.2	14.4	9.6	32	48
≥ 60 °C	≥ 70 °C	4.4	5.1	6.4	8.6	4.6	6.0	7.8	3.6	3	2.4	1.8	1.2	4	6
		2.5	3.2	4.3		3.0	3.9		7.2	6	4.8	3.6	2.4	8	12
		1.6	2.1			1.9			14.4	12	9.6	7.2	4.8	16	24
		1.0							28.8	24	19.2	14.4	9.6	32	48
	≥ 75 °C	5.4	6.3	7.9	10.6	5.6	7.3	9.5	3.6	3	2.4	1.8	1.2	4	6
		3.1	3.9	5.1		3.6	4.7		7.2	6	4.8	3.6	2.4	8	12
		1.9	2.6			2.3			14.4	12	9.6	7.2	4.8	16	24
		1.3							28.8	24	19.2	14.4	9.6	32	48

Example 1: ComEx stations in an enclosure with three modules. The following is provided:

- Number of modules: 3;
- Enclosure size and quantity: one 3-fold enclosure;
- Highest ambient temperature $T_a = 40\text{ °C}$;
- Module No. / Circuit No. / Rated current / Number and length of cables:
 - S.1 / S.1.1 / 3 A / 2 x 10 cm;
 - S.1 / S.1.2 / 3 A / 2 x 10 cm;
 - S.2 / S.2.1 / 7 A / 2 x 15 cm;
 - S.2 / S.2.2 / 9 A / 2 x 15 cm;
 - S.3 / S.3.1 / 11 A / 2 x 20 cm;
 - S.3 / S.3.2 / 15 A / 2 x 20 cm.
- Introduction into the enclosure: KLE ($T_s \geq 75\text{ °C}$)
- Conductor cross-sections according to ISO



Selection table

ComEx stations in an enclosure (with one to three modules)																	
Maximum rated current per cable [A] with minimum cable cross-section [mm ²] and														maximum total length of the cables within the enclosure [m]			Maximum number of cables per entry [each]
$T_a \leq 40\text{ °C}$							$T_a \leq 60\text{ °C}$							One 3-fold enclosure	One 2-fold enclosure	One 1-fold enclosure	
2.5	1.5	1	0.75	"2.08 (14 AWG)"	"1.31 (16 AWG)"	"0.823 (18 AWG)"	2.5	1.5	1	0.75	"2.08 (14 AWG)"	"1.31 (16 AWG)"	"0.823 (18 AWG)"				
Stationen mit KLE																	
15.9	12.2	9.9	8.5	14.4	11.4	8.9	10.6	8.1	6.6	5.7	9.6	7.6	5.9	1.44	0.96	0.48	4
	8.0	6.1	5.0		7.2	5.7		5.3	4.1	3.3		4.8	3.8	2.88	1.92	0.96	8
		4.0	3.1			3.6			2.7	2.0			2.4	5.76	3.84	1.92	16
			2.0							1.3				11.52	7.68	3.84	32

Arrangement

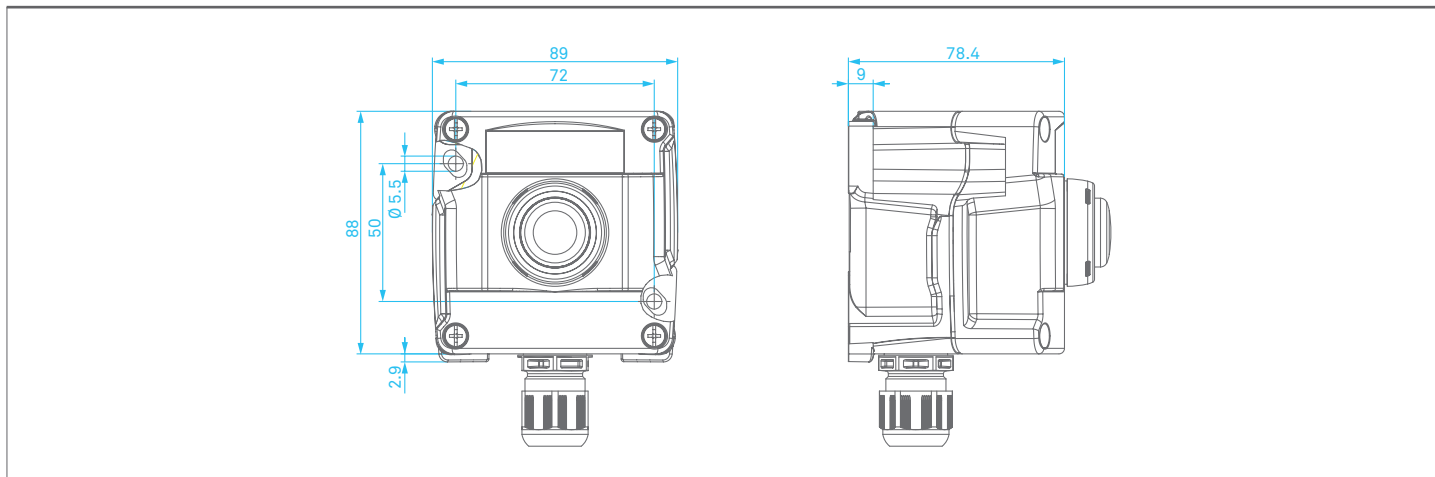
Enclosure	T_a [°C]	Module No.	Circuit No.	Rated current [A]	Cables			Utilisation of cables									
					Quantity [each]	Length [m]	Cross-section [mm ²]	Length [m]			Number per entry						
								provided	permissible	%	provided	permissible	KLE 1	KLE 2	KLE 3	KLE n	
One 3-fold enclosure	40	S.1	S.1.1	3	2	0.1	0.75	2 x 0.1	5.76	3.5%	2	16	12.5%				
			S.1.2	3	2	0.1	0.75	2 x 0.1	5.76	3.5%	2	16	12.5%				
		S.2	S.2.1	7	2	0.15	1.5	2 x 0.15	2.88	10.4%	2	8	25.0%				
			S.2.2	9	2	0.15	1	2 x 0.15	1.44	20.8%	2	4		50.0%			
		S.3	S.3.1	11	2	0.2	1.5	2 x 0.2	1.44	27.8%	2	4			50.0%		
S.3.2	15		2	0.2	2.5	2 x 0.2	1.44	27.8%	2	4			50.0%				
Summe:								94%			100%		100%				

Note 1: e.g. 0.75 mm² is also possible for 7 A, however, with 1.5 mm² the maximum permissible length and number of cables is doubled.

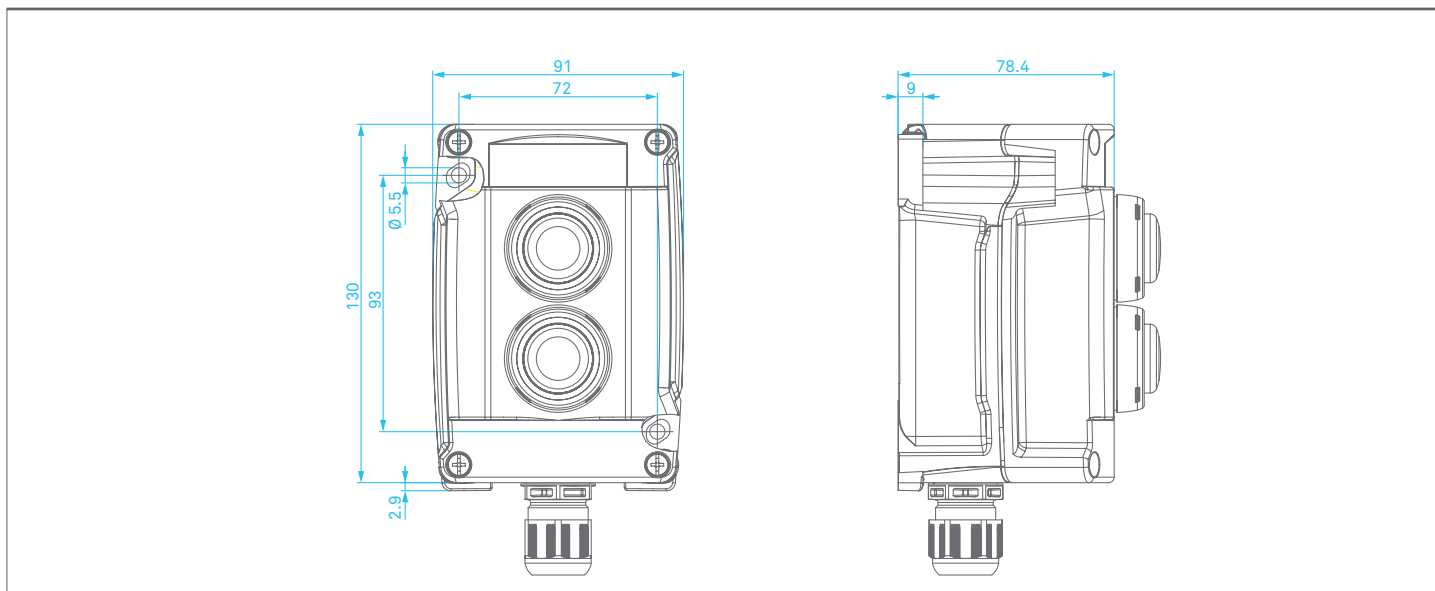
Note 2: For example, for circuit S.1.1 (current 3 A), up to 16 wires of 0.75 mm² per KLE may pass through and for example, for circuit S.2.1 (current 7 A up to 4 cables of 0.75 mm² or up to 8 cables of 1.5 mm² per KLE may also pass through.

Dimensions in mm

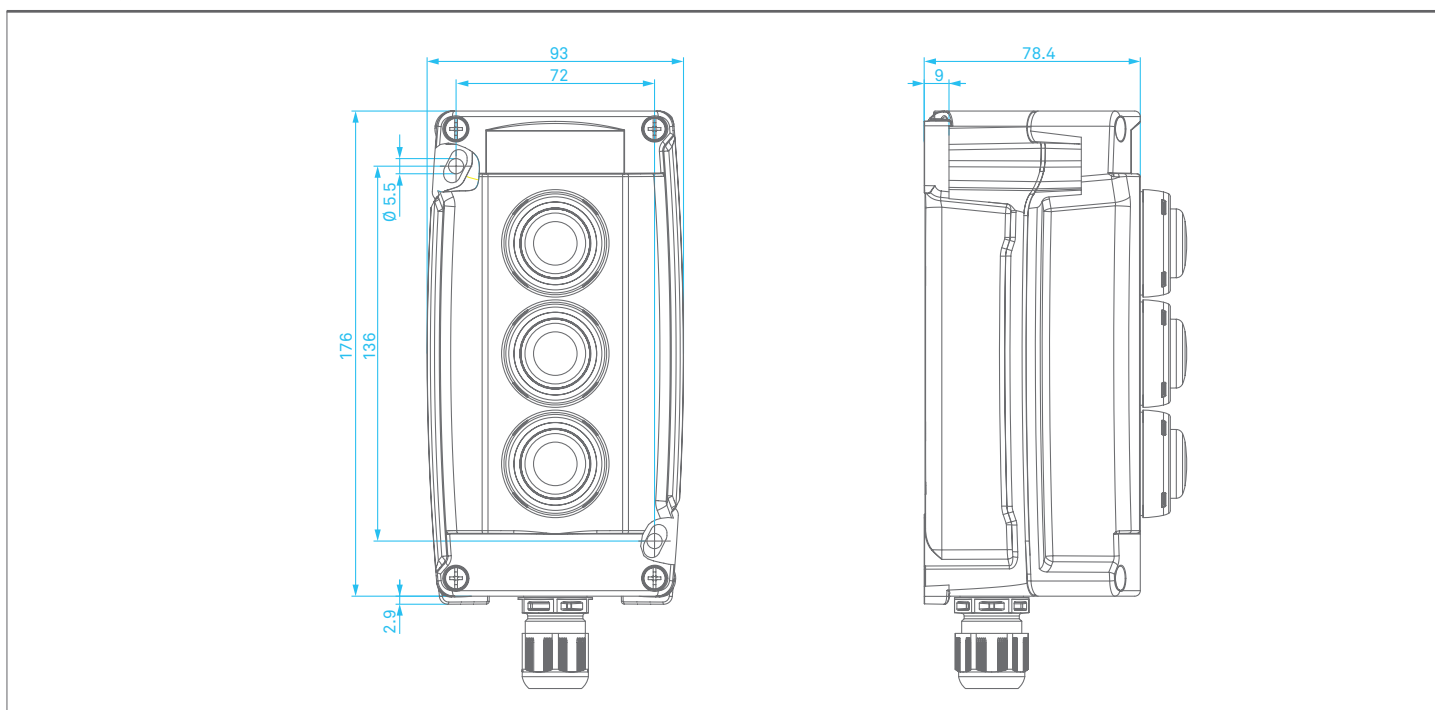
Enclosure, 1-fold



Enclosure, 2-fold



Enclosure, 3-fold



EU Konformitätserklärung
 EU Declaration of Conformity
 Déclaration UE de conformité
 N° 01-3520-7C0001



Wir	We	Nous
-----	----	------

BARTEC GmbH
 Max-Eyth-Straße 16
 97980 Bad Mergentheim
 Germany

erklären in alleiniger Verantwortung, dass das Produkt ComEx Befehls- und Anzeigegeräte	declare under our sole responsibility that the product ComEx Control and Indicating Station	attestons sous notre seule responsabilité que le produit Appareils de commande et de signalisation ComEx
--	--	---

Typ 07-352* -*****

auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht ATEX-Richtlinie 2014/34/EU EMV-Richtlinie 2014/30/EU RoHS-Richtlinie 2011/65/EU WEEE-Richtlinie 2012/19/EU und mit folgenden Normen oder normativen Dokumenten übereinstimmt	to which this declaration relates is in accordance with the provision of the following directives (D) ATEX-Directive 2014/34/EU EMC-Directive 2014/30/EU RoHS-Directive 2011/65/EU WEEE-Directive 2012/19/EU and is in conformity with the following standards or other normative documents	se référant à cette attestation correspond aux dispositions des directives (D) suivantes Directive ATEX 2014/34/UE Directive CEM 2014/30/UE Directive RoHS 2011/65/UE Directive WEEE 2012/19/UE et est conforme aux normes ou documents normatifs ci-dessous
---	---	--

EN IEC 60079-0:2018 EN 60079-1:2014 EN IEC 60079-7:2015/A1:2018 EN 60079-11:2012 EN 60079-31:2014	EN 60529/A2:2013/AC:2019 EN 61000-6-2:2005 EN 61000-6-4:2007+A1:2011 EN IEC 63000:2018
--	---

Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
---	--	---

CML 21ATEX31165X, Issue 0
 2776, CML B.V., Hoogoorddreef 15, 1101BA Amsterdam, NL



Bad Mergentheim, 26.01.2024

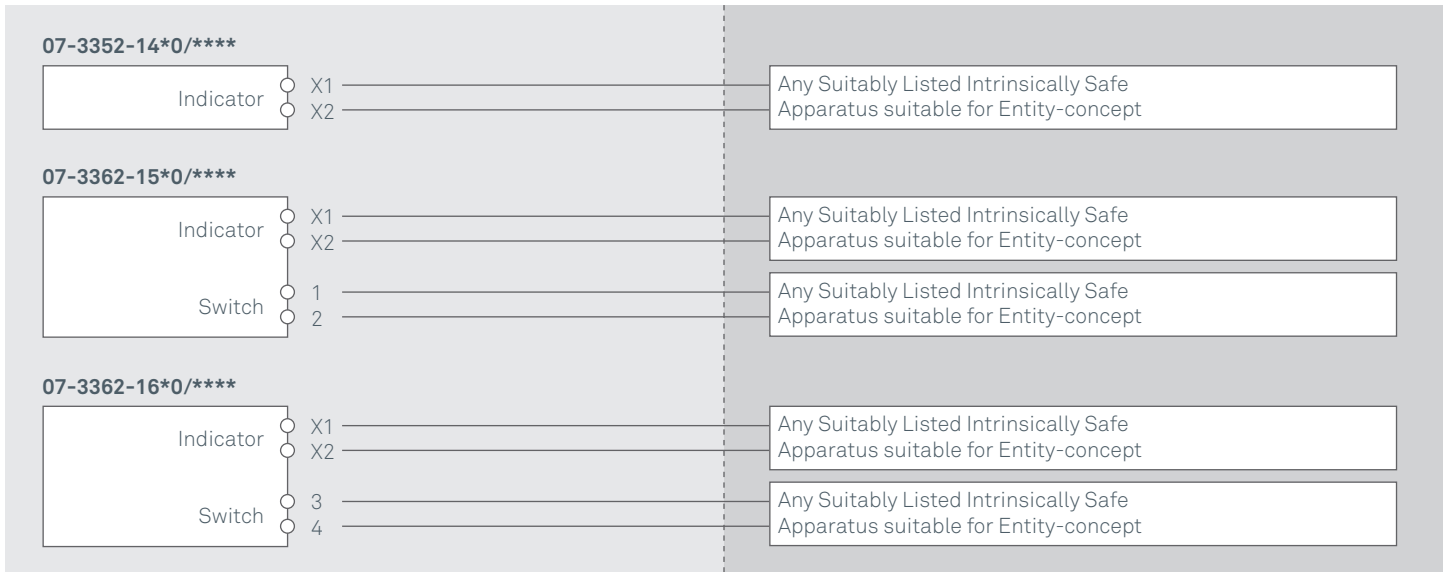
i.A. Simon Dyhringer
 i.A. Simon Dyhringer
 Product Manager Ex e

S. Mika
 i.A. Steffen Mika
 Team Leader Certification
 Management R&D ESS

Control drawing no. 01-3520-7N0001 Rev. -

Non-hazardous location or hazardous (classified) location	Hazardous (classified) location
Class I, Div. 2, Groups A, B, C, D; Class I, Zone 1, Group IIC; Zone 1, Group IIC	Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Group E, F, G; Class III, Div. 1; Class I, Zone 0, Group IIC; Zone 0, Group IIC; Zone 20, Group IIIC
ComEx control and indicating station Type 07-352, f/b D-, E-, F-, J-, K- or L-, f/b fourteen numbers and/or letters	
Up to 3 Module type 07-3352-14*0/**** 07-3362-15*0/**** and/or 07-3362-16*0/****	Up to 6 any Suitably Listed Intrinsically Safe Apparatus suitable for Entity-concept

Module type:



Entity Parameters

Module type	Terminals	Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (µH)
07-3352-14*0/****	X1 - X2	30	150	1	37	0
07-3362-15*0/****	X1 - X2	30	150	1	37	0
	1 - 2	30	150	1	0	0
07-3362-16*0/****	X1 - X2	30	150	1	37	0
	3 - 4	30	150	1	0	0

- Notes:
- The ComEx control and indicating station must be installed in accordance with the manufacturers documentation and Article 504 of the National Electrical Code (ANSI/NFPA 70) for installation in the United States, or Section 18 of the Canadian Electrical Code for installations in Canada.
 - The Suitably Listed Intrinsically Safe Apparatus must be installed in accordance with its manufacturer's control drawing and Article 504 of the National Electrical Code (ANSI/NFPA 70) for installation in the United States, or Section 18 of the Canadian Electrical Code for installations in Canada.
 - The Suitably Listed Intrinsically Safe Apparatus must meet the following requirements: $U_o \leq U_i$, $I_o \leq I_i$, $P_o \leq P_i$, $C_o \geq C_i + C_{cable}$ and $L_o \geq L_i + L_{cable}$. In addition, the values U_o , I_o , C_o and L_o must not exceed the permissible maximum values specified in UL 60079-11 / CSA C22.2 No. 60079-11 and UL 60079-25 / CSA C22.2 No. 60079-25, if applicable, for the class(es), division(s) and/or zone(s), and group(s) of the corresponding hazardous areas of the location of the ComEx control and indicating station.
 - Capacitance and inductance of the field wiring between the intrinsically safe equipment shall be calculated and must be included in the system calculations as shown in note 3. Where the cable capacitance and inductance per foot are not known, the following values shall be used: $C_{cable} = 60 \text{ pF/ft}$, $L_{cable} = 0.2 \text{ µH/ft}$.
 - The intrinsically safe circuits are galvanically isolated from each other in accordance with UL 60079-11 / CSA C22.2 No. 60079-11.
 - Refer to the installation manual for further installation requirements.

BARTEC

BARTEC GmbH
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

Phone: +49 7931 597-0
info@bartec.com

bartec.com