

Installation & Maintenance Manual for Pygmy Local Control Stations

Specifications

Types	E11000X Rotary Switch Unit E1120XX Fuse Unit E11300X Meter Unit E1140XX Signal Lamp	E11500X Junction Box E1160XX Pushbutton Unit E11700X Pilot Lamp Unit E118000 Photocell Unit		
Hazardous Area	ATEX certificate number SIRA02ATEX1307 SIRA02ATEX1308 SIRA02ATEX1309 SIRA02ATEX1310 SIRA02ATEX1311 SIRA02ATEX1312 SIRA02ATEX1313 SIRA02ATEX1314 POCC DE.ГБ06.B00997	IECEX certificate number IECEX SIR 08.0058 IECEX SIR 08.0059 IECEX SIR 08.0060 IECEs SIR 08.0061 IECEX SIR 08.0062 IECEX SIR 08.0063 IECEX SIR 08.0064 IECEX SIR 08.0065	INMETRO certificate number NCC 6430/10 NCC 6397/10 NCC 6398/10 NCC 6431/10 NCC 6385/10 NCC 6423/10 NCC 6400/10 NCC 6399/10	
E11000X Rotary Switch Unit	ATEX certificate number	IECEX certificate number	INMETRO certificate number	
E1120XX Fuse Unit	SIRA02ATEX1307	IECEX SIR 08.0058	NCC 6430/10	
E11300X Meter Unit	SIRA02ATEX1308	IECEX SIR 08.0059	NCC 6397/10	
E1140XX Signal Lamp	SIRA02ATEX1309	IECEX SIR 08.0060	NCC 6398/10	
E11500X Junction Box	SIRA02ATEX1310	IECEs SIR 08.0061	NCC 6431/10	
E1160XX Pushbutton Unit	SIRA02ATEX1311	IECEX SIR 08.0062	NCC 6385/10	
E11700X Pilot Lamp Unit	SIRA02ATEX1312	IECEX SIR 08.0063	NCC 6423/10	
E118000 Photocell Unit	SIRA02ATEX1313	IECEX SIR 08.0064	NCC 6400/10	
GOST certificate number	SIRA02ATEX1314	IECEX SIR 08.0065	NCC 6399/10	
INMETRO certificate number	POCC DE.ГБ06.B00997			
CE number	CE 0102			
Certification coding for ATEX/IECEX	Ex II 2 GD	Ex d IIC T* Gb Ex tb IIIC T** Db		
Gas/dust temperature class	T6/T80°C @ Ta+50°C (all types except E11500X Junction Box) T5/T95°C @ Ta+55°C (all types except E11500X Junction Box) T6/T80°C @ Ta+55°C @ 10W MDP (E11500X Junction Box only) T5/T95°C @ Ta+50°C @ 15W MDP (E11500X Junction Box only) T4/T130°C @ Ta+55°C @ 15W MDP (E11500X Junction Box only) T4/T130°C @ Ta+55°C @ 20W MDP (E11500X Junction Box only)			
Minimum ambient temperature	-40°C			
Cable entry point maximum temperature	70°C			
IP Rating	IP65			
Mechanical	Cast iron			
Material	Painted black			
Finish				
Cover screw torque				
Entry threadform				
E11500X Junction Box	4xM20 one each on faces A,B,C&D			
All other types	2xM20 one each on faces A&B			
Electrical	Max voltage	Max current	MDP	Terminal capacity
E11000X Rotary Switch Unit	440VAC	20W	10W	2x2.5mm ²
E1120XX Fuse Unit	230VAC	16A	10W	1x4mm ²
E11300X Meter Unit	-	-	10W	1x4mm ²
E1140XX Signal Lamp	230VAC	-	10W	1x4mm ²
E11500X Junction Box	440VAC	-	10, 15 or 20W	8x4mm ² or 6x6mm ²
E1160XX Pushbutton Unit	230VAC	3A	10W	1x2.5mm ² or 2x1.5mm ²
E11700X Pilot Lamp Unit	230VAC	-	10W	1x4mm ²
E118000 Photocell Unit	230VAC	8A	10W	1x6mm ²
Model specific data	5.5kW AC3 max			
E11000X Rotary Switch Unit	Solid link or BS88 fuses of 2,4,6,10,16A (80kA@415VAC / 40kA@250VAC)			
E1120XX Fuse Unit	FSD 0.1,1,5, or 10A			
E11300X Meter Unit	6.5V 0.15A MES type lamp			
E1140XX Signal Lamp	Maximum cable current density 7A/mm ²			
E11500X Junction Box	Current derating:	Voltage (VAC)	110	230
E1160XX Pushbutton Unit		400	500	
		Current (AC15)	6	3
			2	1.6
E11700X Pilot Lamp Unit	SBC Lamp 10W max			
E118000 Photocell Unit	Max load 2x250W (SON) or 1x2000W (tungsten)			
	Switching differential 1:0.5			
	Connections: brown = live, blue = neutral, white = load			
Conformity	IEC 60079-0: 2007	EN 61241-0: 2006		
	EN 60079-1: 2007	EN 61241-1: 2004		
	EN 13463-1: 2001	EN 60529		



Installation

To minimise the risk of ignition by electrical apparatus in hazardous areas efficient installation, inspection and maintenance of apparatus and systems is essential and the work should be carried out by suitably trained personnel in accordance with the prevailing code of practice.

Instructions common to all types

- 1) Pygmy units may be coupled to produce multi-gang assemblies by the use of an approved hollow bush. **However, this must be done at the factory and should not be done by installers.**
- 2) The enclosure should be used as a template when marking fixing points. Expanding bolts should be used when mounting on concrete, or suitably sized bolts, nuts and anti-vibration washers when mounting to a steel framework.
- 3) **No metal should be removed from the enclosure i.e. extra cable entries or mounting points should not be made.**
- 4) **No modifications should be made to the fitted equipment without consultation with Pepperl+Fuchs. The fitted equipment has been assessed to produce a heat rise that will maintain the stated gas/dust temperature classes.**
- 5) When selecting cable sizes reference should be made to Table 1 to ensure that the current in the circuit will not result in greater heat dissipation than the MDP figure stated above.
- 6) Cable entries should be made only with suitably approved Ex d / Ex tb glands noting that this equipment is suitable for use with gas group IIC & dust group IIIC. IP ratings should be suitable for the intended area of installation.
- 7) Ensure that the type of cable being used is suitable for the type of gland. Certain types of cable have a hollow centre and must not be used with compression type glands. With these types of cables, barrier or 'stuffing' glands should be used.
- 8) All unused entries should be fitted with suitably approved Ex d / Ex tb stopping plugs.
- 9) A corrosion inhibiting grease may be applied to the surface of the flameproof joints before assembly. If applied, the grease should be of a type that does not harden because of ageing, does not contain any evaporating solvent and does not cause corrosion of the joint surfaces.
- 10) Once the cover is fitted, ensure that all fasteners are fully tightened.

E11300X Meter Unit

- 1) Ammeter scale is as specified at time of ordering.
- 2) Full Scale Deflection (FSD) currents are as follows:
E113001 0.1A E113002 1A E113003 5A E113004 10A

E11500X Junction Box

- 1) Terminals fitted are as follows:
E115001 MK3/8 E115002 MK6/6
- 2) Current density should not exceed value as stated above. Dissipation from cabling should not exceed MDP figure stated above – please refer to Table 1.

E1160XX Pushbutton Unit

- 1) The unit may be provided with various actuating heads in single or double format.
- 2) Each actuator may be fitted with up to two contact blocks (either NO or NC).

E118001 Photocell Unit

- 1) The unit is designed to automatically switch lighting loads on and off depending on ambient light levels.
- 2) To test for correct operation, cover the window for approximately 85 seconds – the unit will switch on. Remove the cover and wait for approximately 10 seconds – the unit will switch off.
- 3) Warning – when power is first supplied to the unit, the lamp circuit will be energised and the lampholder contacts will be live until the unit has switched off in daylight, this will take approximately 15-20 seconds.

Cable CSA	Current (A)									
	1	2	4	6	10	16	20	25	32	40
1mm ²	0.0168	0.0672	0.269	0.605	1.68	4.3	-	-	-	-
2.5mm ²	0.00672	0.0269	0.108	0.242	0.672	1.72	2.69	4.2	-	-
4mm ²	0.0042	0.0168	0.067	0.151	0.42	1.08	1.68	2.63	4.3	-
6mm ²	0.0028	0.0112	0.045	0.101	0.28	0.717	1.12	1.75	2.87	4.48
10mm ²	0.00168	0.00672	0.027	0.061	0.168	0.43	0.67	1.05	1.72	2.69

Table 1 – Dissipation of copper cables in W/m



Maintenance

Electrical apparatus installed in hazardous locations has design features that make it operationally safe under normal conditions. In order to ensure that the apparatus remains serviceable the following points should be attended to on a periodical basis. The period between inspections is not fixed, but should be adjusted to suit the environmental conditions where the equipment is situated. An initial inspection after 12 months of use is suggested.

- 1) Ensure that all fasteners are present and of the correct property class. Refer to the certification label for details.
- 2) Ensure that the enclosure is not damaged or distorted so as to affect the dimensions of the flameproof joints.
- 3) Ensure external earth bonding connections are in place and in good condition.
- 4) Ensure that all entry devices are in good condition and securely tightened.
- 5) Ensure that the certification label is present and legible.

Ensure that the location where the equipment is fitted is free from flammable gas or dust. With the enclosure open:

- 6) Ensure that the 'o' ring remains in place and is in good condition. Replacement 'o' rings are available from Pepperl+Fuchs.
- 7) Look for pitting or damage to the flamepaths of the enclosure body and cover. Surface corrosion may be removed, but abrasive cleaners should not be used.
- 8) Look for wear or damage to the flamepaths of any operating shafts (pushbuttons or rotary switches) that pass through the enclosure.
- 9) The flamepaths of the enclosure should be cleaned, and may optionally be coated in grease to guard against corrosion. If applied, the grease should be of a type that does not harden because of ageing, does not contain any evaporating solvent and does not cause corrosion of the joint surfaces.
- 10) With the cover refitted, ensure that all fixings are fully tightened.