Installation & Maintenance Manual for ASM130 Ex d Enclosure

Specifications

Types	SD - ASM130 switch disconnector DOL - ASM130 DOL starter ASMT130 - ASM130 terminal box			
Hazardous Area				
ATEX certificate number	SIRA03ATEX1215			
IECEx certificate number	IECEx SIR 08.0055			
GOST certificate number	РОСС DE.ГБ06.B01008			
INMETRO certificate number	NCC 6281/10U			
CE number	CE 0102			
Certification coding for ATEX/IECEx	Ex II 2 GD	Ex d IIB T* Gb Ex tb IIIC T** Db		
Gas/dust temperature class	T6/T80℃ @ Ta+40℃ T5/T95℃ @ Ta+55℃			
Minimum ambient temperature	-20℃			
Cable entry point maximum temperature	70℃			
IP Rating	IP66			
Maximum internal power dissipation (MDP)	7W (as ASMT terminal box)			
Mechanical				
Material				
Type code contains A/AL	LM6 aluminium			
Type code contains C/CI	Cast iron			
Type code contains S/SS	316L stainless steel			
Finish	Painted black			
Entry threadform				
SD types	M25 (M32 for SD…/32 types)			
DOL types	M25 (M32 for SD…/32 types)			
ASMT130	Refer to Customer Specific Drawing produced at time of ordering			
Recommended cover screw tightening torque	15Nm			
Electrical				
SD types				
Maximum voltage	440VAC			
Maximum current/power/term.capacity	AC21(A)	AC23(kW)	AC3(kW)	Conductor size (mm² max)
SDx804	80	30	22	35
SDx1004	100	37	30	35
SDx206	20	5.5	3.7	2.5
SDx256	25	7.5	5.5	6
SDx326	32	11	7.5	6
SDx636	63	22	18.5	16
DOL types				
DOL…/240	240V contactor coil voltage			
DOL…/415	415V contactor coil voltage			
Overload relay range				
DOL11/…	16-24A			
DOL15/…	24-32A			
Conformity	IEC 60079-0: 2007 EN 60079-1: 2007 EN 61241-0: 2006 EN 61241-1: 2004 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.

1) For ASMT130 terminal box applications, 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.
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. When the enclosure is supplied fitted with a PV type breather drain, the enclosure must be mounted with this at the bottom.
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) 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 IIB & dust group IIIC. IP ratings should be suitable for the intended area of installation.
6) 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.
7) All unused entries should be fitted with suitably approved Ex d / Ex tb stopping plugs.
8) 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.
9) Once the cover is fitted, ensure that all fasteners are fully tightened.

	Current (A)									
Cable CSA	1	2	4	6	10	16	20	25	32	40
1mm²	0.0168	0.0672	0.269	0.605	1.68	4.3	-	-	-	-
2.5mm²	0.00672	0.0269	0.108	0.242	0.672	1.72	2.69	4.2	-	-
4mm²	0.0042	0.0168	0.067	0.151	0.42	1.08	1.68	2.63	4.3	-
6mm²	0.0028	0.0112	0.045	0.101	0.28	0.717	1.12	1.75	2.87	4.48
10mm²	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) If a cover gasket is fitted, ensure that it remains in place and is in good condition. Replacement gaskets 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.