

Design and products for safety problem solving in medium and high voltage electrical installations

Type PMB1330

evision 0 of 17 Dec. 24

Oil Pressure monitoring box



In HV bushing for SF6 switchgear installation oil a critical parameter.

Hence the monitoring of this pressure is very important to guarantee a safe operation for the bushing itself and also the performance of connected transformer.

Temperature of oil can be locally very high so the pressure transducer in contact with oil must be specifically designed to resist to such a condition and also be very accurate to convert the signal.

Pressure monitor box is taking the signal from pressure transducer and simply indicate on its LED display the realtime digital value.

In addition a local series of indicating alarms are available to indicate if the pressure inside the bushing is too low (L1) or too high (L2, L3).

These information are remoted by changeover dry contacts to control room for maintenance and control.

An autodiagnostic routine continuously check the integrity of electronic board in order to guarantee a safe operation.

Pressure monitor box is not only able to read pressure of oil but of any kind of fluid or gas; its functionality in independent from type of media, the important is to read a 4-20mA analogue signal which is converted and a logic creates alarms.

Device can be customized according to different requests coming from market.

APPLICATIONS

- Realtime reading of oil pressure inside the HV bushing
- Safe operation: bistable relays allow to keep frozer indication of alarm status even in case of AUX trip
- Up to 4 local alarm indication and remote dry contacts
- Auto-diagnostic alarm status in case of malfunction of electronic device
- Conversion of standard 4-20mA analogue signal coming from pressure transducer
- Heavy duty and durable materials for long lasting and high resistance in harsh environment
- LED indication for clear and safe reading even in the most extreme temperature range
- Suitable for indoor or outdoor, IP65 protection
- Values of alarms are factory or locally adjustable
- Industrial, medical or aerospace fields

HIGHLIGHTS

- Extreme temperature range -40° to + 70°C
- Suitable for high vibration conditions, all internal components are tested accordingly
- Suitable for wall mounting with elastic dumpers
- Excellent long term stability
- Quick response time
- Factory calibration
- 14 bit ASIC core
- Wide range of AUX voltage input 110-230Vac 50/60Hz



Design and products for safety problem solving in medium and high voltage electrical installations

Type PMB1330

evision 0 of 17 Dec. 24

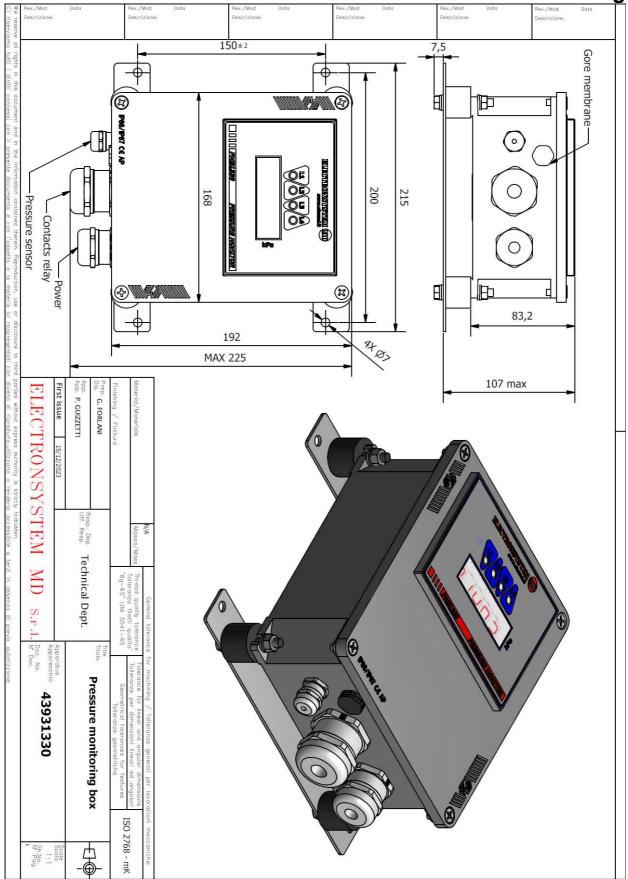
Oil Pressure monitoring box

Electrical characteristics PMB1330		
Power supply		115 / 230 V AC 15 %, 50-60 Hz
Indication		4 Red led and Up to 5 LED 14mm 7 segment
Measuring range	kPa	0 kPa ÷ +500 kPa ABS
Indication accuracy		1%
Switch differential	kPa	20 kPa
Temperature range	°C	40° to 70°
IP degree protection	IP	IP55 IEC 60529 with ventilated Gore membrane
Connection input		3X Cable glands, brass nickel plated
Вох		Aluminium die-cast, painted & INOX AISI 316



Design and products for safety problem solving in medium and high voltage electrical installations Type PMB1330
Revision 0 of 17 Dec. 24

Oil Pressure monitoring box



All specs are subject to change without notice



in medium and high voltage electrical installations

Type PMB1330

Revision 0 of 17 Dec. 24

Oil Pressure monitoring box

										Oil Pressure monitoring													
We reserve Ci riservion	Rev./Mod Descrizione:	Data		Rev./ Descr	/Mod rizione:		Data		Rev./M Descriz		Data		Rev./		Data		Rev./Mod Descrizion		ata		v./Mod scrizione:	Data	
erviamo tufti i diritti connessi con il presente documento e con l'aggetto o la materia ivi rappresentati co erviamo tufti i diritti connessi con il presente documento e con l'aggetto o la materia ivi rappresentati con	Ordering code: PMB1330/801 PMB1330/802						3.3.1 Insulation data: between open contacts 1000Vrms, between adjacent contacts a 3.4 Input signal: pressure sensor with shielded cable 4-20mA loop powered	 3.1 Display pressure indication: Up to 5 LED 14mm 7 segment 3.2 Visual pressure alarms: 3x red led on front + 1 LED for diagnostic 3.3 Output relay: Up to 4 CO contacts bistable relay for level alarms + 1 CO contact for diagnostic 	3 INPUT/OUTPUT RANGE	2.12 Logic diagram: see block diagram fig.2		Alarm	2.1 Measuring range: 0 kPa ÷ +500 kPa ABS 2.2 Indication accuracy: 1 % 2.3 Resolution: 1 kPa 2.4 Alarm level 1:The relay is making at falling pressure	2 ELECTRICAL DATA	1.10 KoHs conformity: Compliant with exemption 6(c): copper alloy containing up to 4% lead by weight 1.11 REACH SVHC substances: Yes Lead 1.12 Corrosion test: UNI EN ISO 9227 "Corrosion test in artificial atmospheres - salt test"	1.8 Anti-vibrig dentification: rubber 1.8 Anti-vibridion: rubber 1.9 Colour: RAL 7040 grey	1.5 Screws/Nuts: Galvanized steel 1.6 Cable glands: Brass nickel plated, outside diameter of cable: Sensor 3.5-7mm , Power 9-16mm, Contacts relay 16-20mm 1.7 Mounting clamp: Stainless steel 1.8 Artivibration: rubber 1.9 Colour: RAI 7040 grey		1.1 Housing material: Aluminium die-cast, painted 1.2 Frame window: AISI 316 1.3 Window: Trasparent polycarbonate	1 MATERIALS	TECHNICAL FEATURES: DESCRIPTION: PRESSURE MONITORING BOX		
parties without express authority n divieto di riprodurlo,utilizzarlo	ELECTRON	App. P. GUIZZETTI First issue	Prep. G. FORLANI	Material/Materiale Finishing / Finitura		ώF	:500Vrms	E.								lead by weight		5.1	5 :-	4.1 4.2 4.3	4 E		
o renderlo o	ISYSTE	CA	,			SS	802	Order group								IP degree	Transport Relative ai Mechanica	Operating	NVIRONME	EN61000-	LECTROMA		
rbidden. Iccessibile a terzi în assenza di previa autorizzione	TEM MD s.r.1	Uff. Resp. Technical Dept.		Massa/Mass Thread quality tolerance Tolleranza fliatti qualita' "6g-65" UNI 5541-65	General tolerance for	indicated above are in kPa absolute	85	Alarm Falling pre								5.5 IP degree protection: IP55 IEC 60529 with ventilated Gore membrane	 Transport and storage: -40°C to 80°C Relative air humidity Come da precedente Mechanical stress: Vibration according to IEC 	temperature range: -40°C to 70	5 ENVIRONMENTAL CONDITIONS	4.1 EN61000-4-4: Burst 4kV withstand of the communication & power supply interfaces with 10m cord 4.2 EN61000-4-5: Surge 4kV withstand on the shield of 10m cord 4.3 EN61000-4-11: Power fail, loss of power	4 ELECTROMAGNETIC IMMUNITY PROTECTION		
ia autorizzione.	Apparecchio 43931330	Apparatus	Title Titolo Pressure monif	Once Tolerance for linear and angular dimensions of the Toleranze per dimensioni lineari ed angolari of the Toleranze per dimensioni lineari ed angolari of the Toleranze geometriche	chining		250	Alarm level 2 Rising pressure [kPa]								n ventilated Gore membrane	nte IEC 60255-21-1 and IEC 60068)°C		communication & power supply shield of 10m cord	NC		
	Sh.No.	0.0	Pressure monitoring box	gular dimensions neari ed angolari ISO 2768 - mK netriche	/ Tolleranze generali per lavorazioni meccaniche:		350	Alarm level 3 Rising pressure [kPa]									8-2-6			y interfaces with 10m cord			

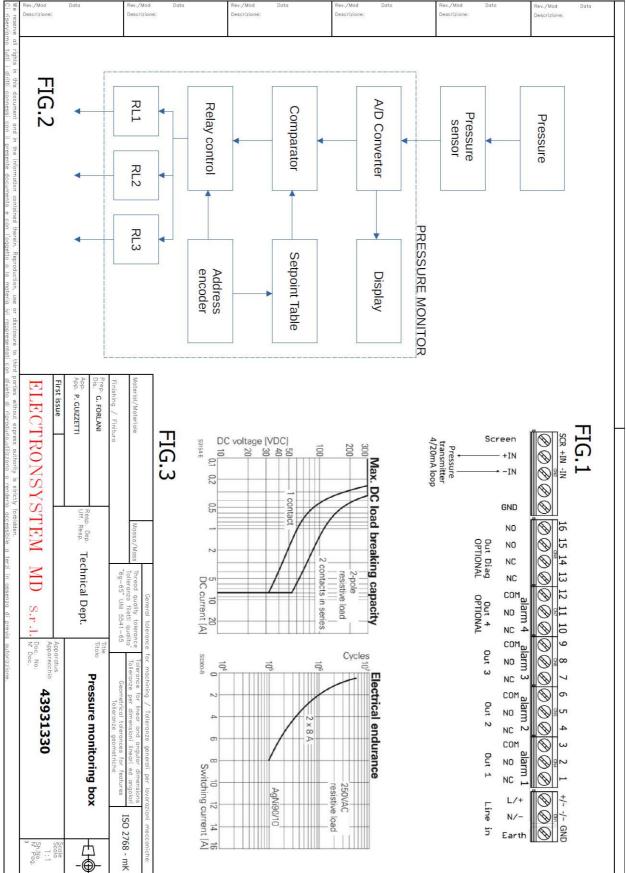


Design and products for safety problem solving in medium and high voltage electrical installations

Type PMB1330

Revision 0 of 17 Dec. 24

Oil Pressure monitoring box





Type PMB1330

evision 0 of 17 Dec. 24

Oil Pressure monitoring box

STORAGE

If the complex must be storage before use, please keep dry and repaired.

Do not leave outdoor, please keep the parts in its original package.

Device is strongly sensitive to humidity hence avoid to store where relative humidity is more than 90%

STORAGE TEMPERATURE: -30°C ÷ +70°C RELATIVE HUMIDITY: max 90% @ +40°C

MAINTENANCE

Maintenance of pressure monitoring box must be done compulsory in factory. We recommend every 5 years to send back pressure monitor box for check of calibration, functionality test and cleaning. If available a new FW will be uploaded.

WARRANTY

Device is covered by 24 months after installation or max 36 months after delivery. In case of service the pressure monitoring box must be sent back to factory for inspection.



Type PMB1330

Revision 0 of 17 Dec. 24

Oil Pressure monitoring box

WARNINGS

CAUTION

Do not drop or hit the item. The pressure monitoring box is fragile and may be scratched or damaged from sudden shock.

When transporting the item, use the original shipping box from Electronsystem MD.

NOTE

Keep the item dry and clean.

Do not remove the transport protection caps before you are ready to install the item; please connect to pressure monitoring box only the original pressure transmitter made by Electronsystem MD.

NOTE

The use of original cable wiring is advised to have the better protection performances and assure rated accuracy. Do not connect not tested items, cables or other without prior authorization

INSTALLATION

Device must be mounted on a flat and robust surface using the proper flanges support. Check the drawing to draw the assembly points of wall mounting before proceeding to drill the surface.

Control all the surroundings of the box are free and do not come in contrast with metal frames.

DISCLAIMER NOTE:

While we provide application assistance it is up to the customer to determine the suitability for its use. Specification may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However we assume no responsibility for its use.

The quality of ElectronsystemMD products is guaranteed by a Quality, Safety and Environmental management system certified by DNV according to ISO 9001, ISO 18001 and ISO 14001. Electronsystem MD works in partnership with its customers in designing customized executions in order to meet specific requirements, please contact us.

All specs are subject to change without notice