

LIGHT ARC DETECTOR

LAD_X rev.B 06.07.10



Light arc detector, LAD, has up to three independent channels suitable for fault arc detection. Each channel has a changeover contact for remote control. On the front of the device you have green leds for local indication of channel ready to react.

Total response time from arc detection to contact activation is less than 6 msec.

Arc detection is made by optical receiver sensible to IR radiation and the arc light is captured by optical plastic fiber inserted into the tank in order to obtain simple cabling between the part under control and LAD device.

The contact of relay subsequently an arc fault changes its state and remains in that situation for 200ms to allow the switch-gear opening.

The device was tested in accordance to IEC 60255-27 to guarantee the ultimate standard compliance to most sever worldwide requirements for safety devices.

LAD/X/ _ _ _

Technical features

Rated input voltage :.....24,48,110,60÷220 VDC
.....48÷230 VAC
Input :.....optical flash IR peak
Optical link: FOP (optical plastic fiber):.....1mm core
.....2,2mm external cladding
Max distance link:.....6m
Temperature range :.....-30°C ÷ 70°C
IP degree protection :.....IP64(*)
..... output connector IP30

Relays features

Contact material :.....AgCdO
Rated current /Max peak current:6/15A
Rated voltage/Max switching voltage:.....250/400 VAC
Rated load AC1:.....1500VA
Rated load AC15 (230VAC):.....250VA
Single phase motor rating (230VAC):.....0.185kW
Breaking capacity DC1 30/110/220V:..... 3/0.35/0.2A
Minimum switching load:.....500(10/5) mW(V/mA)
Mechanical life AC/DC:...../20*10^6 cycles
Electrical life at rated load AC1: 100*10^3 cycles
Insulation between coil and contacts:.....5kV
Dielectric strength between open contacts:...1000VAC
Vibration resistance(5-55)Hz,max +/-1mm:10g
Shock resistance:.....20g

Directives and standards applicable

EMC directive :..... 2004/108/EC
RoHS directive :..... 2002/95/EC
Low voltage directive:2006/95/EC

EN 55011:(ISM) radio-frequency equipment
EN 61000-4-2:Imm. to electrostatic discharge (ESD)
EN 61000-4-3: ...Imm. to radiated RF electromagnetic fields
EN 61000-4-4:.....Imm. to electrical fast transients - Burst
EN 61000-4-5:Immunity to Surge
EN 61000-4-6:Imm. to induced by RF fields
EN 61000-4-11: .Imm. to voltage dips and short interruptions
EN 61000-6-2:2005:(EMC) - Industrial emission
EN 61000-6-3:2007:(EMC) - Residential emission
EN 61000-3-3:2002:(EMC) - Flicker

Material

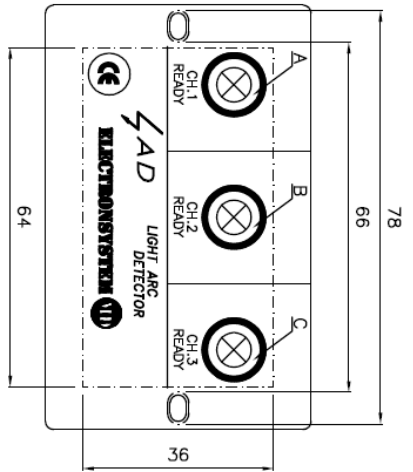
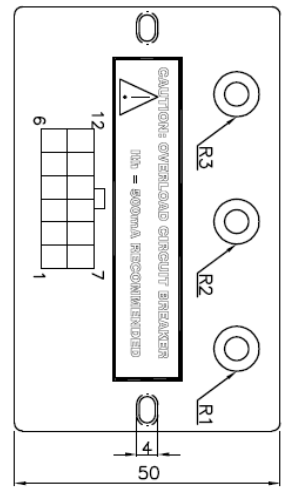
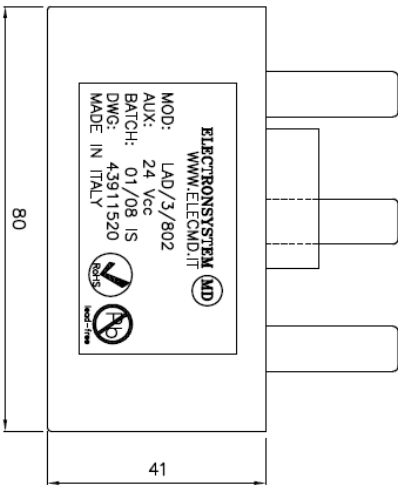
External box :..... Insulating Material
Filling Material :.....Polyurethan resin (2-component)

Connection input :.....snap-in optical fiber connector
Output :.....MOLEX MINI FIT 12 poles connector

LIGHT ARC DETECTOR

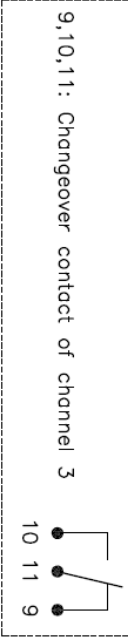
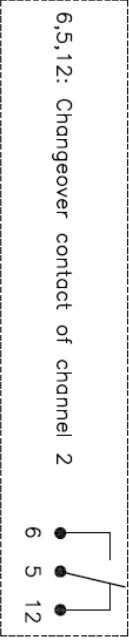
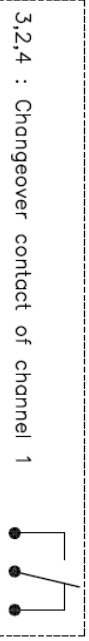
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Rev./Mod A Data 16.01.2001 Descrizione: Cambiate dimensioni e scheda	Rev./Mod B Data 21.10.2003 Descrizione: MODIFICA POSIZIONE CONTATTI	Rev./Mod C Data 19.01.2007 Descrizione: MODIFICATO C.S.	Rev./Mod D Data 15.11.2007 Descrizione: AGGIUNTO GRUPPO 804	Rev./Mod E Data 13.03.2009 Descrizione: AGGIUNTO ETICHETTA OVERLOAD	Rev./Mod F Data 07/04/2009 Descrizione: AGGIUNTO GRUPPO 805
Rev./Mod G Data 06.07.2010 Descrizione: AGGIUNTO VERSIONE SPECIALE					
ORDERING CODE: Code : LAD/□ / □-□ / □-□					
* Default					
group 802 : auxiliary power voltage 24 Vdc ±15% group 805 : auxiliary power voltage 48±220 Vdc ±15% and 48±230 Vdc ±15% 50Hz					
S : special version, contact change its status only with arc presence					
1 : 1 changeover contacts 2 : 2 changeover contacts 3 : 3 changeover contacts*					
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Fig.		Material/Materiale		N° Series / Serie	
Filing Room Archivio		Thread quality tolerance Tolleranza filetti qualità "9g-6S" UNI 5541-65		General tolerance for machining / Tolleranze generali per lavorazioni meccaniche:	
Prep. G. FORLANI App. P. GUIZZETTI		Coord. Punched N.C. mach. "9g-6S" UNI 5541-65		Quality for linear dimension Qualità per quote lineari	
Resp. Dep. Uff. Tecnico		Coord. punzon. e C.N. JS11		Extra-fine / Fine	
Rev./Mod. 003.09.1998 : Emissione nuovo disegno		Uff. Tecnico		Medium / Medio	
ELECTRONSYSTEM MD S.r.l.		Title LIGHT ARC DETECTOR		Coarse / Grossolano	
Doc. No. 43911520		Appartus Approccio		Scale 1:1	
N° Doc. 1/1		Lang. Inglese		Scale 1:1	
ELECTRONSYSTEM MD S.r.l.		LIGHT ARC DETECTOR		Scale 1:1	



DESCRIPTION:

- A : Green Led - Channel 1 ready
- B : Green Led - Channel 2 ready
- C : Green Led - Channel 3 ready
- R1 : Optical input channel 1
- R2 : Optical input channel 2
- R3 : Optical input channel 3
- 1 : Power (+)
- 7 : Power (-)



Note :

- The contacts have a breaking capacity of 6 A
- The duration of arc contact signalation is 200msec
- Operating time is less than 6 msec
- The contacts are indicated in conditions of power on and with no input arc.
- Dash-dot line indicates the drilling template of front panel.