

Flame Proof Lever Limit Switch IIA/IIB



Introduction

The Flame-proof weight operated Limit Switch are designed for operation in hazardous environment where explosive gases/vapors are present. The robustly designed Flame-proof enclosure is modified to meet the requirement as specified on IS/IEC-60079-0-2007 & IS/IEC 60079-1-2007.

The enclosure is made of Aluminium Alloy LM 4. Each enclosure is subjected to hydrostatic pressure test. The enclosure is certified by Karandikar Laboratories Pvt. Ltd. for use in Gas Groups I, II and IIB.

Operation:

A two (or more) Contact elements (2NO+NC) are operated by respective rotating cams, suitably adjusted on a square cam-shaft. When a cam on the moving load hits the weight of the limit switch and rotates the square cam shaft, which in turn operates the change over contacts.

Switching Diagrams

FLS/1SH/2

Contact No.	F	O	R
1		X	
2		X	

FLS/2SH/2

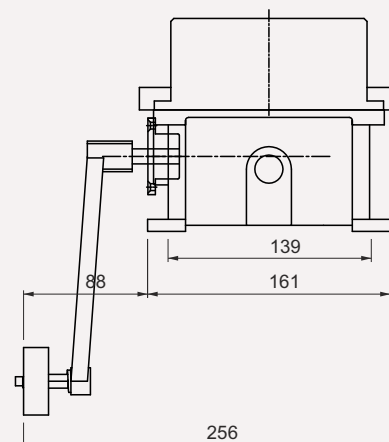
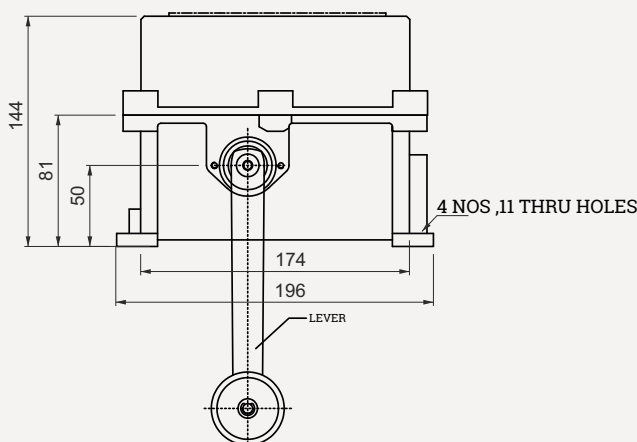
Contact No.	F	O	R
1		X	X
2		X	X

Flame Proof enclosure constructed in accordance with provisions as specified in IS/IEC 60079-0-2007 & IS/IEC 60079-1-2007



Technical Data

Explosive Atmosphere Part I Equipment Protection by Flameproof Enclosures "d"	
Product	Lever Limit Switch
Zone	Zone 1, Gas Groups I, IIA & IIB
Model	FLS/2HS/2
Voltage	220V DC/660V AC
Phase/Frequency	40 A AC max
Ambient Temperature	-20°C + 40°C
Enclosure	Aluminium Alloy LM 4
Ingress Protection	IP-54
Cable Entry	M 20 Single
IS -	IS/IEC 600079-0-2007 IS/IEC 600079-1-2007 IS/IEC 600529 : 2001
BIS License No.	CM/L-7200042490 as per IS/IEC 600079-1-2007
Certificate No.	KLPL/Ex/16-065X Date: 09-07-2016 Karandikar Laboratories Pvt. Ltd



Speed-O-Controls Pvt. Ltd.

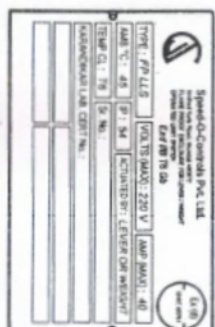
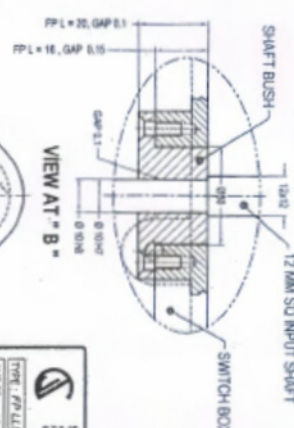
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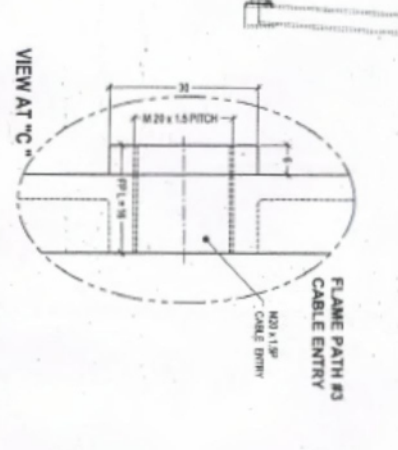
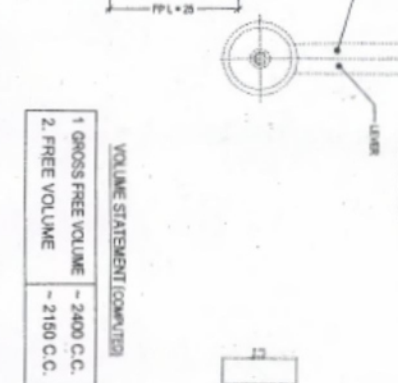
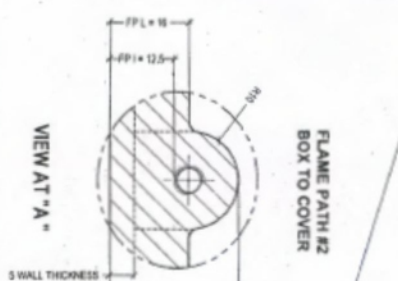
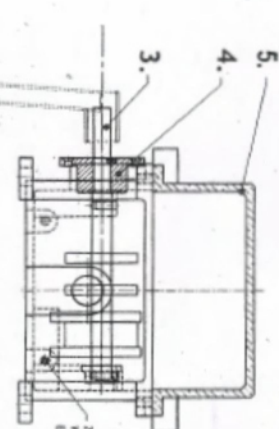
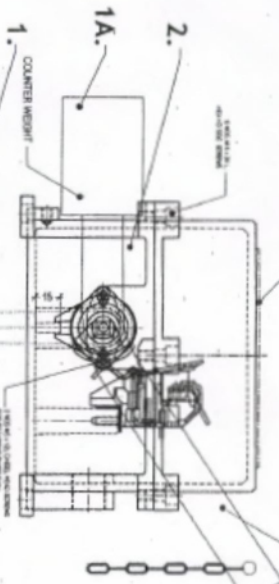
Visit us at :
www.speedocontrols.com
www.socremote.com

Oct, 2017

FLAME PATH #1
INPUT SHAFT



KARANDIKAR LABORATORIES PVT. LTD.
CERTIFICATE No.: KPL/EX/16-0659
DATE : 09.07.2016



1. GROSS FREE VOLUME	- 2400 C.C.
2. FREE VOLUME	- 2150 C.C.

Copper, Cu	Titanium, Ti	Tin, Sn	Iron, Fe	Nickel, Ni	Silicon, Si	Lead, Pb	Magnesium, Mg	Zinc, Zn	Manganese, Mn	Aluminum, Al
2.0-4.0%	0.2%	0.10%	0.80%	0.30%	4.0-6.018%	0.10%	0.20%	0.50%	0.20-0.60%	87.0-91.4%

Periode	Rechnungs-nr.	Datum	Unterschrift	Geprüft

SR NO	DESCRIPTION	MATERIAL	SIZE	QTY
05	BOX COVER	LM - 4	SAND CAST	1
04	SHAFT BUSH	LM - 4	Ø30 x Ø19 ID X 20 L	1
03	12 mm SQ INPUT SHAFT	STEEL	-	1
02	SWITCH HOUSING	LM - 4	SAND CAST	1
1, 1A	LEVER / DEAD WEIGHT	LM & STEEL	-	1

1. FLAME-RETARDANT PROTECTION IS A FLOW-LEVEL WEIGHT-CREATED LIMIT SWITCH IS DESIGNED AS PER EN60730-1:2007. GENERAL REQUIREMENTS BASIC EN60730-1:2007 AS PER EN60730-1:2007.
2. DIMENSIONS AND MATERIALS OF THE 1000-HOUR TESTS, PARTS ARE IN COMPLIANCE WITH EN60730-1:2007. THE SWITCHES AND PARTS ARE MADE OF CARBON STEEL WITH PROPERTY CLASS 12.2 AND TENSILE YIELD STRESS OF 1180 MPa.

APPROVED DRAWING
SHANKAR LABORATORIES PVT. LTD.
DATE No.: KPL/EX/16-06/59
09.07.2016.
R. K. PARANJPE

9. EARTHING TERMINALS NO. 1 AND SIZE - 2 NOS. EXTERNAL AND ONE INTERNAL OF SIZE M8 X 10.
10. MINIMUM WALL THICKNESS OF THE SWITCH HOUSING IS 6 mm & FOR COVER IT IS 5mm.
11. ALUMINIUM ANODIZED 1/8" NAME PLATE IS MOUNTED ON THE COVER BY HAMMER DRIVEN NUTS.
12. QUALITY OF METRIC THREADS AS PER ISO 965-1 & ISO 965-3 METRIC FIT H8.
13. EX CODE - END 88 TS 06
14. EARTHING TERMINALS ARE SUITABLE FOR TYPICAL SQUARE CONDUCTORS.

PURPOSE	= LIMITING MOVING PARTS WITHIN SAFE OPERATING RANGE
PRODUCT	= LIMIT SWITCH, LEVER OR DEAD WEIGHT OPERATED
SUPPLY	= 24 V TO 220 V DC / UP TO 660 AC MAX
OPERATED BY	= ROTORY CAMS, MOUNTED ON SQ. SHAFT, OPERATE CONTACTS
FOR USE IN HAZARDOUS AREAS	= ZONE I AREAS, GAS GROUP II (IIA & IIB)
DEGREE OF PROTECTION	= IP54 AS PER IEC 60529:2001.
GAS GROUPS	= IIA AND IIB.
CABLE ENTRY	= SINGLE CABLE ENTRY M. 20 x 1.5 P.
MATERIAL OF BOX & COVER	= ENCLOSURE LHM - ALU. ALLOY
FLAME-PROOF ENCLOSURE WITH PROTECTION "d" (FOR THE LEVER / WEIGHT OPERATED LIMIT SWITCH) IS DESIGNED AS PER THE REQUIREMENTS FOR CONSTRUCTION AND TESTING AS SPECIFIED IN IS / IEC 60079 - 1:2007 AND IS INTENDED FOR USE IN HAZARDOUS ATMOSPHERES WITH GAS GROUPS IIA AND IIB	

[illegible]

 Speed-O-Controls Pvt. Ltd.
MUMBAI - 400 072

FLAME-PROOF ENCLOSURE FOR LEVER / WEIGHT
OPERATED LIMIT SWITCH (TYPE LLS)