

Flame Proof Worm Limit Switch (IIA,IIB)



Introduction

Flame-proof Worm Drive Limit Switch FLP-FG2 is used to trip motor supply when the moving loads reach the extreme end positions of working zone. These are suitable for use in explosive gases, as specified zone 1 Gas group IIA, IIB, as per IS/IEC 60079-0-2007 & IS/IEC 60079-1-2007.

Operation:

A two (or more) Contact elements are operated by respective rotating cams, suitably adjusted on a cam-shaft. Which rotates with fixed speed ratio of the drive motor shaft. The cams can be step lessly positioned so that they trip motor supply and stop the motion at the set point of travel.

The FLP-FG2 limit switch with IP-54 degree of protection are available in desired NO/NC contacts combinations as specified gear ratio.

Mechanical Data

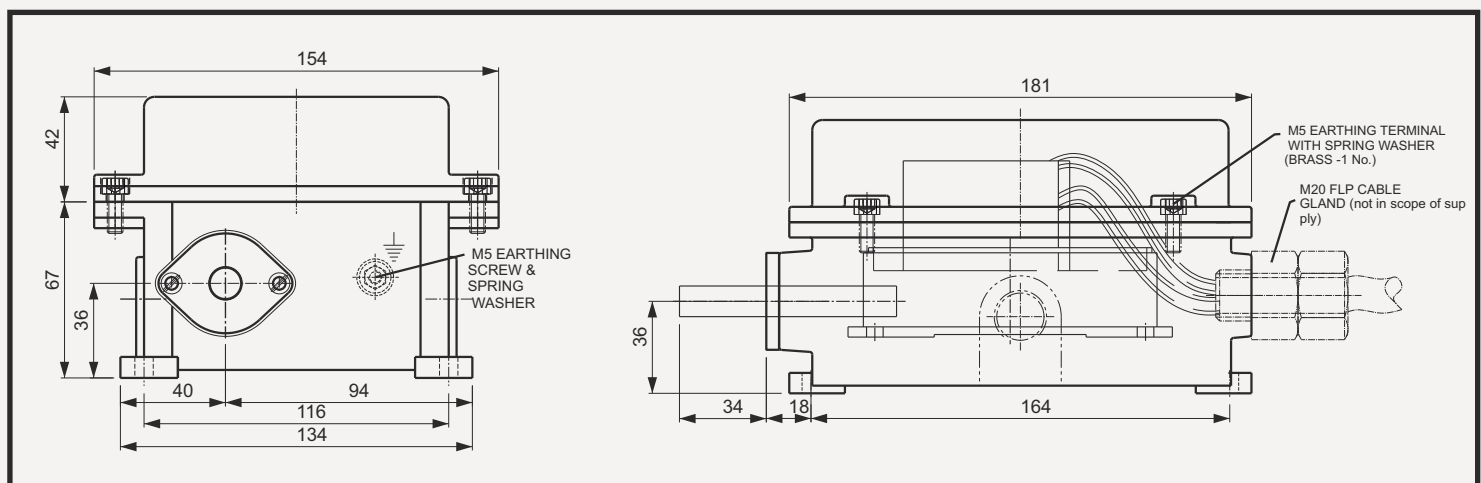
Ratios	Effective Rotations	Useful Rotations	2 Contacts Model	4 Contacts Model
25:1	25	20	FLP-FG-25P2	FLP-FG-25P4
50:1	50	40	FLP-FG-50P2	FLP-FG-50P4
100:1	100	80	FLP-FG-100P2	FLP-FG-100P4
200:1	200	160	FLP-FG-200P2	FLP-FG-200P4
400:1	400	320	FLP-FG-400P2	FLP-FG-400P4

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	Worm Drive Limit Switch
Zone	Zone 1, Gas Groups I, IIA & IIB
Model	FLP-FG2
Voltage	Upto 500 VAC
Phase/Frequency	10 A AC max
Ambient Temperature	-20°C + 40°C
Enclosure	Aluminium Alloy LM 4
Ingress Protection	IP-54 (IS/IEC 60529:2001)
Cable Entry	M 20 Single
IS -	IS/IEC 60079-0-2007 IS/IEC 60079-1-2007 IS/IEC 60529 : 2001
BIS License No.	CM/L-7200042490 as per IS/IEC 60079-1-2007
Certificate No.	KLPL/Ex/15-112 Date: 27-11-2015 Karandikar Laboratories Pvt.Ltd



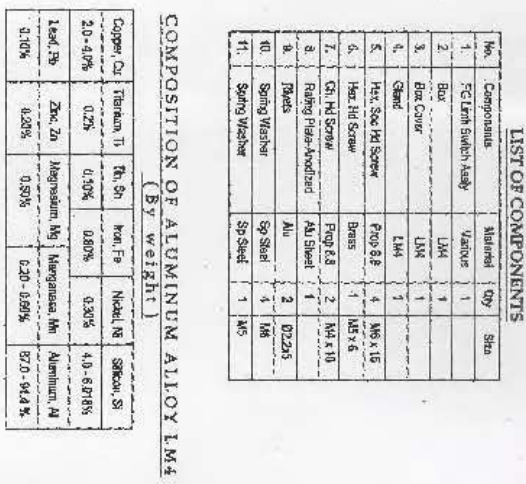
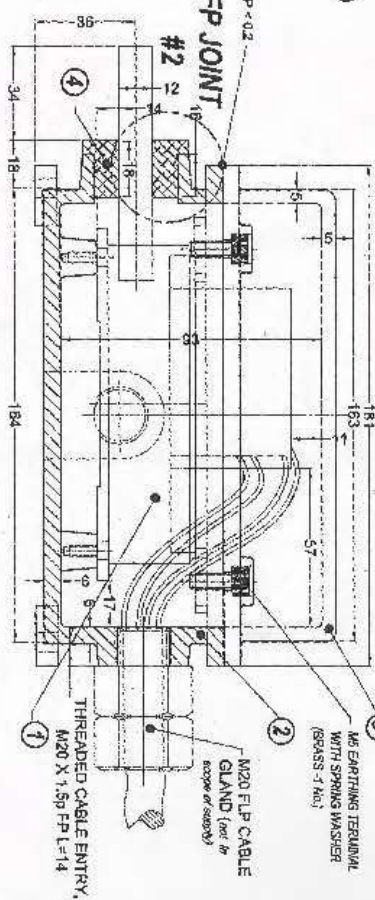
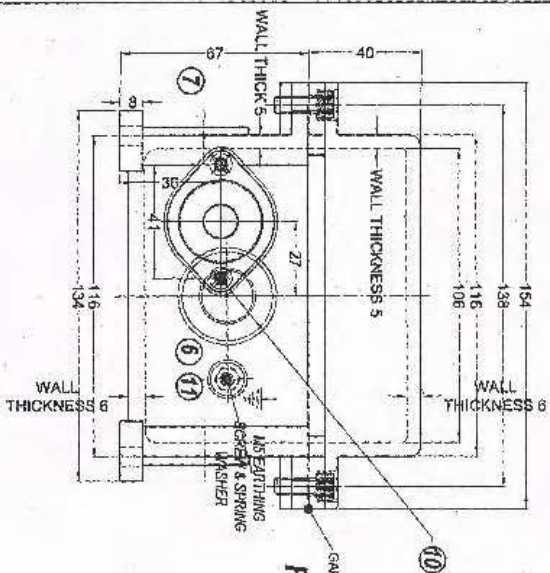
Speed-O-Controls Pvt. Ltd.

H. O. Unit - I: C-15/16, Nand Jyot Industrial Estate, Andheri-Kurla Road, Mumbai - 400072,
Tel : (022) 42469700-30
Fax : (022) 42469797
E-mail : sales@socgroup.in

Unit - II: Plot No. 4912, G. I. D. C., Phase IV, Vatva, Ahmedabad - 382445
Tel.: (079) 40083201/2/3/4,
Fax : (079) 25841056,
E-mail : sales.amd@socgroup.in

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

Oct, 2017



1. All dimensions in the drawing are in millimeters.
2. Filament-pitch lengths and gage are in accordance with IS / IEC 60079-1 (2007).
3. General construction and details, selection of materials, processes, tolerances, Degrees of Protection, Rating Markings etc. are in accordance with IS / IEC 60079-2 (2007).
4. Flange / headcase like Sockets bolted are as per Proprietary Class (T, 3, 800) (up to 150°C) 2B6-1 & 3 (180°C) and size of Metric steel of minimum class (T50 - 860) and clearance holes are as per ISO-273 and of Limits & Fits as per ISO - 2681 Part II.
5. All hardware components are Ni-Cadmium plated.
6. Name plate is made of Aluminium steel and is Anodized.
7. For fixed wall, terminal driven flange.
- 7.1. Limits, Fits and Tolerances are as per IS 919 - 1953.
8. Metal Indicators in metal wall and blind holes is at least 3 mm.
9. Surface finish of contact surfaces of Emergency joint is better than Grade N10.
10. Normal working temp of Temperature is -20° to +40° C.
11. The maximum surface Temperature will not exceed +105 °C. (Class T4)

VOLUME STATEMENT (COMPUTED)	
1. GROSS FREE VOLUME	1510 CC
2. MAX. FREE VOLUME	1000 C.C.

TYPE	FLIP FG 2
GAS GROUP	1A, 1B
MAX VOLTAGE INPUT	500 V AC Max
MAX CURRENT INPUT	10 Amps
OPERATING MECHANISM	WORK AND WORK GEAR
RATIO	25:50/100/200/400:1 (Any one)
HAZARDOUS AREAS	ZONE 1, GAS GROUPS, 1A, 1B
DEGREE OF PROTECTION	IP-54 AS PER IEC-60529:2001
CABLE ENTRY	SINGLE, As per IEC - 60423, M 20 x 1.5, H, L144, ALL ALLOY
MATERIAL OF ENCLOSURE	External: Earthing Sheet - M5 x 10 with spring washer
WIRING TERMINALS	Internal Earthing Sheet - M5 x 10 with locking washer
EARTHING CONDUCTOR SIZE	1) Internal 2.5 sq. mm. 2) External 9.5 sq. mm.

MECHANICAL PROPERTIES	
TENSILE STRENGTH	140 MPa
ELONGATION	2 %

Copper, Cu	Vanadium, V	Tin, Sn	Iron, Fe	Nickel, Ni	Silicon, Si
2.0-4.0%	0.2%	0.50%	0.80%	0.30%	4.0-6.08%
Lead, Pb	Zinc, Zn	Magnesium, Mg	Manganese, Mn	Aluminum, Al	
0.10%	0.20%	0.50%	0.20-0.50%	97.0-99.4%	

No.	Component	Material	Qty	Size
1.	SC Item Switch Assy	LM4	1	
2.	Box	LM4	1	
3.	Box Cover	LM4	1	
4.	Stand	LM4	1	
5.	Flat SC Item Switch	P30-2E	4	M6 x 16
6.	Hex Hd Screw	Boss	1	M6 x 6
7.	GM Hd Screw	Propt. S	2	M4 x 10
8.	Rating Name-Placard	Alu Sheet	1	
9.	Paints	Alu	3	D22x5
10.	Spring Washer	Sp. Steel	4	M6
11.	Spring Washer	Sp. Steel	1	M6

Issue Date	Material	Reference: IS/IEC 60079-1:2007, IS/IEC 60079-0:2007
20 MAY 2013	VARIOUS	Assembly No. :
Design	Karkare	Customer:
Drawn	Raju	Part No.
		FLAME PROOF ROTARY LIMIT SWITCH Type - FLP FG 2
		Dwg No. : FLP FG 2 - 01
SPEED-CONTROL S.P.LTD. ANCHAL KARKARE, PUSHPA NIMBARKAR, VIVEK KARKARE		Sheet No 1 of 1

APPROVED DRAWING

KARANDIKAR LABORATORIES PVT. LTD.
CERTIFICATE No.: KPL/EX/15-162
DATE 27TH November 2015

Accepted
R. K. KARANDIKAR

FOR AND ON BEHALF OF
SPEED-O-CONTROL P. LTD.
Mumbai - 400072



Dated: / /