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**FLAMEPROOF EQUIPMENTS**

**FLAMEPROOF**  
**LIMIT SWITCHES**  
**GAS GROUP (IIC)**



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### WEIGHT LIMIT SWITCH

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### WORM DRIVE LIMIT SWITCH

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# Flame Proof IIC Lever Limit Switch



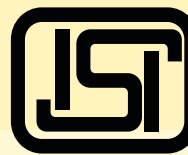
## Introduction

Flame-proof **Lever Limit Switch** FLP-LLS 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 Gas groups IIC, as per IS/IEC 60079-0-2017 & IS/IEC 60079-1-2014.

## Operation

A two Contact elements are operated by respective rotating cams, suitably adjusted on a cam-shaft. Which rotates with fix 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 Lever Limit Switch with IP-54 degree of protection are available in desired NO/NC contacts .

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## G.A.Drawing

**SWITCHING DIAGRAMS**

| FLS/1SH/1  |   |   |
|------------|---|---|
| CONTACT NO | 0 | 1 |
| 1          | X |   |

| FLS/1SH/11 |   |   |
|------------|---|---|
| CONTACT NO | 0 | 1 |
| 1          | X |   |
| 2          |   | X |

| FLS/1SH/2  |   |   |
|------------|---|---|
| CONTACT NO | 0 | 1 |
| 1          | X |   |
| 2          | X |   |

## Technical Data

| Explosive Atmosphere Part I Equipment Protection by Flameproof Enclosures "d" |  |
|---|--|
| Product   | Lever Limit Switch   |
| Zone  | Zone 1, Gas Groups IIC   |
| Model   | FP-LS-LLS-IIC  |
| Voltage   | 500VAC   |
| Current   | 10 A AC max  |
| No of Contacts  | 2NO or 2NC   |
| Ambient Temperature   | T6   |
| Enclosure   | Aluminium Alloy LM 4   |
| Ingress Protection  | IP-55(IEC 60529(1989))   |
| Cable Entry   | M 20 Single  |
| IS  | IS/IEC 600079-0-2017<br>IS/IEC 600079-1-2014<br>IS/IEC 600529 : 2001 (Reaffirmed 2014) |
| BIS License No.   | CM/L-72000208195<br>DATE - 20-07-2021  |
| Certificate No.   | IN/CIMFR/TR24/R/558<br>Date:02-07-2024<br>Central Institute of Mining & Fuel Research  |
| Petroleum & Explosive Safety Organization (PESO)                              | A/P/HQ/GJ/104/5699(P455000)<br>Date:16/07/2025   |

# Flame Proof IIC Weight Limit Switch



## Introduction

Flame-proof Counter Weight Operated Limit Switch is designed for operation in a 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-600079-0-2017 & IS/IEC 600079-1-2014.

The enclosure is made of Aluminum Alloy LM 4. Each enclosure is subjected to hydrostatic pressure test .The enclosure is certified by Central Institute of Mining & Fuel Research for use in Gas Group IIC.

## Operation

A two (NC) Contact elements 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.

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## G.A.Drawing

**SWITCHING DIAGRAMS**

| FLS/1SH/2  |   |   |
|------------|---|---|
| CONTACT NO | 0 | 1 |
| 1          | X |   |

| FWLS/1SH/11 |   |   |
|-------------|---|---|
| CONTACT NO  | 0 | 1 |
| 1           | X |   |
| 2           |   | X |

| FWLS/1SH/2 |   |   |
|------------|---|---|
| CONTACT NO | 0 | 1 |
| 1          | X |   |
| 2          | X |   |

## Technical Data

| Explosive Atmosphere Part I Equipment Protection by Flameproof Enclosures "d" |   |
|---|---|
| Product   | Weight Operated Limit Switch  |
| Zone  | Zone 1, Gas Groups IIC  |
| Model   | FP-LS-CWLS-IIC  |
| Voltage   | 500VAC  |
| Current   | 10 A AC max   |
| No of Contacts  | 2 NC  |
| Ambient Temperature   | T6  |
| Enclosure   | Aluminium Alloy LM 4  |
| Ingress Protection  | IP-55(IEC 60529(1989))  |
| Cable Entry   | M 20 Single   |
| IS  | IS/IEC 600079-0-2017<br>IS/IEC 600079-1-2014<br>IS/IEC 600529 : 2001<br>(Reaffirmed 2014) |
| BIS License No.   | CM/L-72000208195<br>DATE - 20-07-2021   |
| Certificate No.   | IN/CIMFR/TR24/R/558<br>Date:02-07-2024<br>Central Institute of Mining & Fuel Research     |
| Petroleum & Explosive Safety Organization (PESO)                              | A/P/HQ/GJ/104/5699(P455000)<br>Date:16/07/2025  |

# Flame Proof IIC Worm Drive Limit Switch



## Introduction

Flame-proof **Worm Drive Limit Switch** FLP-FG2 is used to trip motor supply when the moving loads reach the end positions of the working zone. These are suitable for use in explosive gases, as specified zone 1 Gas group IIC, as per IS/IEC 60079-0-2017 & IS/IEC60079-1-2014.

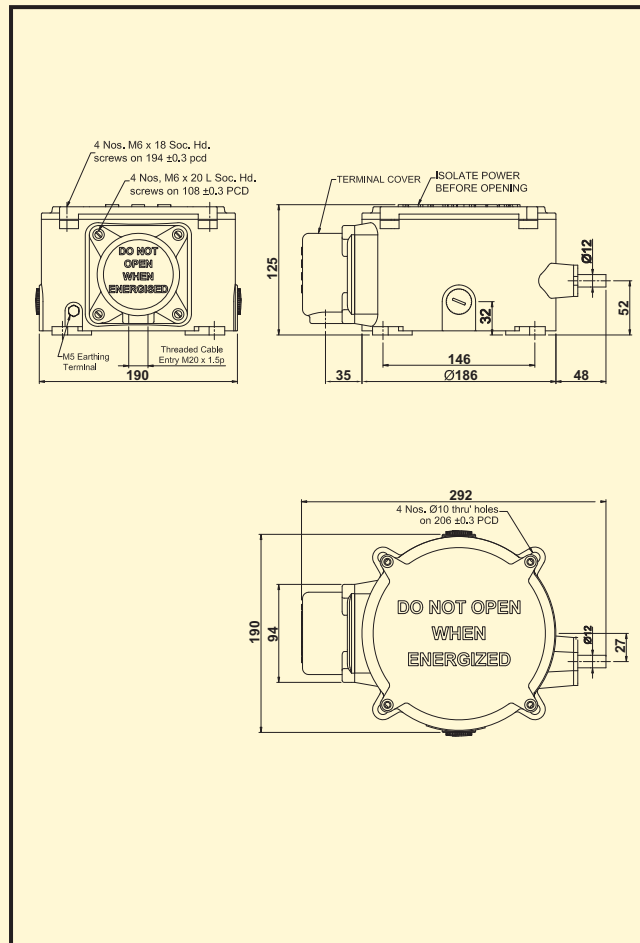
## Operation

A two Contact elements are operated by respective rotating cams, suitably adjusted on a cam-shaft. Which rotates with a fixed speed ratio of the drive motor shaft. The cams can 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 is available in desired NO/NC contact combinations are 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     |

## G.A.Drawing



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## Technical Data

| Explosive Atmosphere Part I Equipment Protection by Flameproof Enclosures "d" |   |
|---|---|
| <b>Product</b>  | Worm Drive Limit Switch   |
| <b>Zone</b>   | Zone 1, Gas Groups IIC  |
| <b>Model</b>  | FLP-FG-IIC  |
| <b>Voltage</b>  | 500VAC MM   |
| <b>Current</b>  | 10 A AC max   |
| <b>No of Contacts</b>   | 2NO or 2NC  |
| <b>Ambient Temperature</b>  | T6  |
| <b>Enclosure</b>  | Aluminium Alloy LM 4  |
| <b>Ingress Protection</b>   | IP-55(IEC 60529(1989))  |
| <b>Cable Entry</b>  | M 20 Single   |
| <b>IS</b>   | IS/IEC 60079-0-2017<br>IS/IEC 60079-1-2014<br>IS/IEC 60529 : 2001 (Reaffirmed 2014)<br>IS/IEC 60079-31 : 2013 |
| <b>BIS License No.</b>  | CM/L-72000208195<br>DATE - 20-07-2021   |
| <b>Certificate No.</b>  | IN/CIMFR/TR21/R/418<br>Date: 06-05-2021<br>Central Institute of Mining & Fuel Research                        |
| <b>Petroleum &amp; Explosive Safety Organization (PESO)</b>                   | A/P/HQ/GJ/104/5969 (P529363/1)<br>Date:09/11/2022   |

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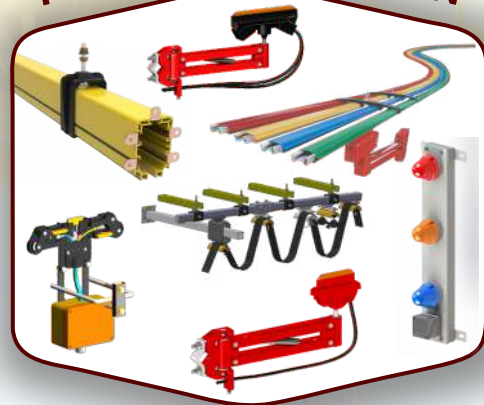
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**SPEED-O-CONTROLS PVT. LTD.**  
**FLAMEPROOF EQUIPMENTS** **V6**  
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