

### Application

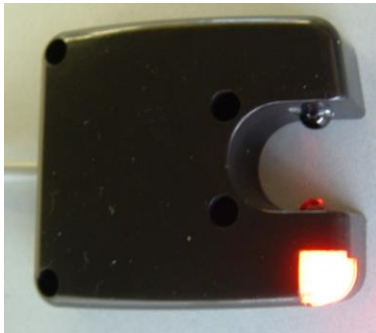
The **MOS-LC** is a **non-contact** yarn break **opto-electronic sensor**.

**MAIN FUNCTION:** To control the presence of yarns while **to-and-fro** or **ballooning motion**.

When the yarn breaks or stops, the sensor will indicate a default situation and give the information to the machine or to the operator by the means of a LED. It can activate a yarn cutter or stop the position.

**PRINCIPLE:** As the thread passes through an infra red beam, the variations are processed by the electronic circuits of the **MOS-LC**.

**ELECTRICAL PROTECTION:** **MOS-LC** protection against reversed polarity and high level overload on output. It shows a high level of electromagnetic compatibility (EMC).

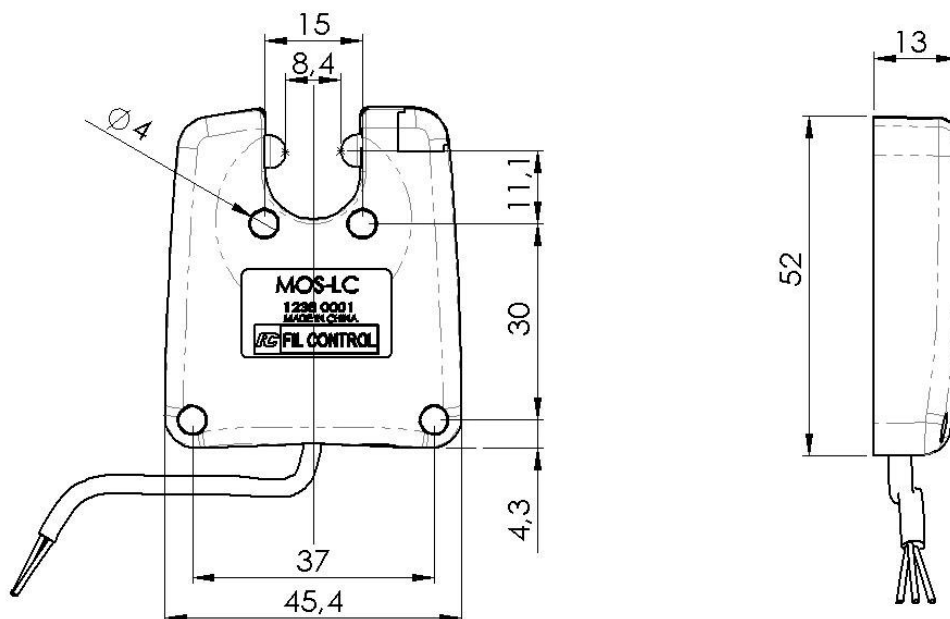


#### Characteristics:

- ❑ 2 power supply range : 18 to 30 VDC or 11 to 18V DC
- ❑ 1 NPN or PNP / NO power output with polarity reversal protection and optional short circuit protection
- ❑ Power ON/OFF switch
- ❑ Visual alarm: Red or Bicolour (Red/Green)
- ❑ Connection by cable with connector option
- ❑ Plastic housing
- ❑ High excess gain (Optical protection against dust)

These characteristics can be adapted to customer's requirements (see the codification board).

### Dimensions (mm)



**Codification board**

| MOS-LC  |               | X | X | X | X | X |
|---|---------------|---|---|---|---|---|
| <b>Inhibition / Pilot light / Inhibition</b>      |               |   |   |   |   |   |
| <b>Switch</b>                                     | <b>LED</b>    |   |   |   |   |   |
| Without   | RED           | 3 |   |   |   |   |
| With  | RED           | 4 |   |   |   |   |
| Without   | RED and GREEN | 7 |   |   |   |   |
| With  | RED and GREEN | 8 |   |   |   |   |
| <b>Guides</b>                                     |               |   |   |   |   |   |
| Without guide                                     |               |   | 0 |   |   |   |
| <b>Connections</b>                                |               |   |   |   |   |   |
| By cable  |               |   |   |   | 1 |   |
| <b>Response time (ms)</b>                         |               |   |   |   |   |   |
| 500 <sup>(1)</sup>                                |               |   |   |   |   | 5 |
| <b>Output</b>                                     |               |   |   |   |   |   |
| NPN Normally open (NO) output                     |               |   |   |   |   | 1 |
| PNP Normally open (NO) output                     |               |   |   |   |   | 2 |
| NPN momentary Normally open (NO) output           |               |   |   |   |   | 5 |
| PNP momentary Normally open (NO) output           |               |   |   |   |   | 6 |
| NPN protected Normally open (NO) output           |               |   |   |   |   | 7 |
| NPN protected momentary Normally open (NO) output |               |   |   |   |   | 8 |

(1) This characteristic can be adapted to customer request

**Example**

MOS-LC 80151-LLLL-C-12V:

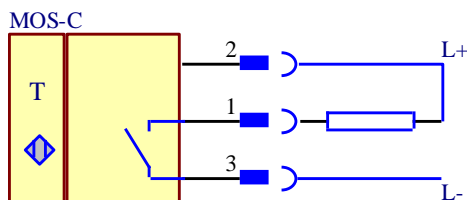
- 8 : with switch, Red/Green LED
- 0 : without guide
- 1 : with cable
- 5 : response time of 500 ms
- 6 : PNP momentary output Normally open (NO)
- LLLL : length of the cable in mm
- C : Type of connector
- 12V : Typical power supply voltage = 12VDC (if blank, typical power supply voltage = 24VDC)

### Technical characteristics

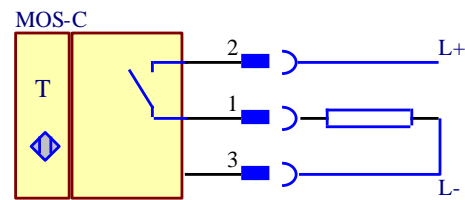
| Parameters   | Conditions  | Min  | Typ  | Max   |
|--|---|------|------|-------|
| Power supply voltage (V)   | For 24Vdc model   | 18   | 24   | 30    |
|  | For 12Vdc model   | 11   | 12   | 18    |
| Sensor consumption (mA)<br>Absence / presence of yarn<br>Optical totally dirty | Own current consumption at 24 V DC<br>and at 25°C, output not connected | -    | 16.5 | 17.5  |
|  |   | -    | 35.5 | 37    |
| Delay between detection and move start (s)                                     |   | -    | 0.2  | -     |
| Dropout voltage at the output (V)  | With maximum current driven   | -    | 0.6  | 0.9   |
| Permanent current driven by the output (mA)                                    | NPN / PNP output type   | -    | 75   | -     |
|  | NPN protected output type   | -    | 500  | -     |
| Pulsed current driven by the output (A)  | NPN / PNP output type   | -    | 0.75 | -     |
|  | NPN protected output type   | -    | 1    | -     |
| Max. voltage at the output (V)   |   | -    | -    | 50    |
| Immunity to fast transients/bursts (kV)  | Positive and negative   | -    | 2    | -     |
| Temperature range (°C)   | For storage   | -20  | -    | 70    |
|  | For operation   | 10   | -    | 50    |
| Relative humidity  |   | -    | -    | 80%   |
| Yarn diameter to check (mm)  | Nylon yarn  | 0,02 | -    | -     |
| Yarn count to check (DTex)   | PES yarn  | 10   | -    | -     |
| Rotation speed (Rpm)   | Sensor response time : 500ms  | 90   | -    | 20000 |

### Setting up procedure

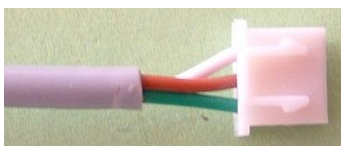
Standard configuration  
Output NPN-NO



Standard configuration  
Output PNP-NO

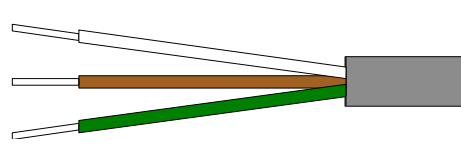


CH325 connector wiring



- 1 White wire : Output
- 2 Brown wire : + Power supply
- 3 Green wire : - Power supply

For direct cable wiring



### Global Operations

| State            | LED                             | Output NO type                        |
|------------------|---------------------------------|---------------------------------------|
| Inhibition mode  | Light Off                       | Inactive = Open<br>(sensor power off) |
| Presence of yarn | Green LED (if present) Light ON | Inactive= Open                        |
| Absence of yarn  | Red LED Light ON                | Active = Close                        |