

### Application

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

**MAIN FUNCTION:** To control the presence of yarns for 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 through its PNP output.

**PRINCIPLE:** The **MOS-E FDV** probe will check the tension variations produced by motion of the yarn inside the IR light beam. The **MOS-E FDV** is insensitive to external light interference. Minimum yarn size detected : 0,1mm.

**ELECTRICAL PROTECTION:** The **MOS-E FDV** is protected against reversed polarity and high level overload on output. It shows a high level of EMC, electromagnetic compatibility : >1 kV.

#### Characteristics:

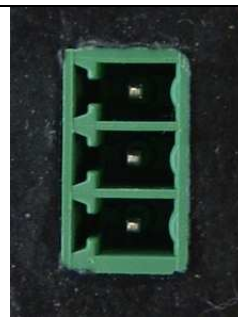
- Power supply : 18 to 30 V DC
- 1 permanent power output, PNP (high side drive) version.
- Outputs protected against short circuit.
- Visual alarm (red LED)
- Connection through 3 pins connector
- Aluminium shell

These characteristics are adapted to operator's requirements.



### Wiring diagram

- supply 1
- + supply 2
- Main output 3

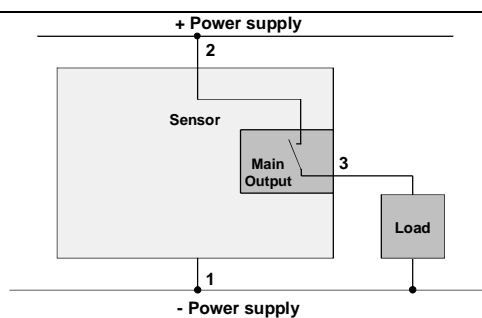


### Technical characteristics

Parameters	Conditions	Min	Typ	Max
Power supply voltage (V)		14	24	30
Sensor consumption (mA)	Own current consumption at 24 V DC and at 25°C. Output not connected.	-	In detection mode → LED light OFF	7,15
			Detection beam blocked → LED light ON	33,3
Peak-to-peak ripple voltage at 100 Hz (%)	20,4 < Supply voltage peaks < 28,8 V	-	10	-
Detection delay at thread start-up (s)	During this time output is inactive	-	3	-
Response time when yarn stop or break (s)	4 <sup>th</sup> number of article codification	-	1	-
Dropout voltage at the main output (V)	Output current < 1 A	-	-	1,5
Permanent current driven by main output (A)		-	-	2
Current driven by main output during 0.1s (A)		-	-	3
Max. voltage at the main output (V)	Output non-conducting (Ic = 5mA DC)	-	-	100
Immunity to the perturbations (kV)	Positive and negative	-	-	Fast transit response
				ESD with contact
				ESD without contact
Ambient light immunity (m / ft)	Minimum distance to a stroboscopic lamp without false thread detection 1Hz frequency, 6500K light intensity	1,5 / 3,7	-	-
Temperature range (°C)	For storage	-15	-	80
	For operation	10	-	50
Relative humidity		-	-	90%

### Setting up procedure

#### Electrical diagram



#### Global Operations

State	LED	Main Output PNP-NO
Switch-on	Light Off	Inactive = Open
Presence of yarn	Light Off	Inactive = Open
Absence of yarn	Light On	Active = 24V