

Application

The **MOS** is an optical sensor devoted to **assembling operations** on yarns : like covering and twisting, cabling, air texturing, etc.

MAIN FUNCTION: Control of the final yarn in order to detect breaking of one of the ends.

When one or several ends breaks or when scrolling stops, the **MOS** will inform the user that the position is in defect. It can activate a **yarn cutter** or stop the position by giving **LOH information to the automate**. This is a dramatic **benefit** compared to a situation where one sensor is used for each end.

PRINCIPLE: The **MOS** follows diameter or shape yarn variations. **To get independent positions**, each signal is analysed by the electronics of each **MOS**.

Yarn speed must be **within 10 to 1 000 m / mn** and **diameter of the final yarn must be less than 2 mm**.

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

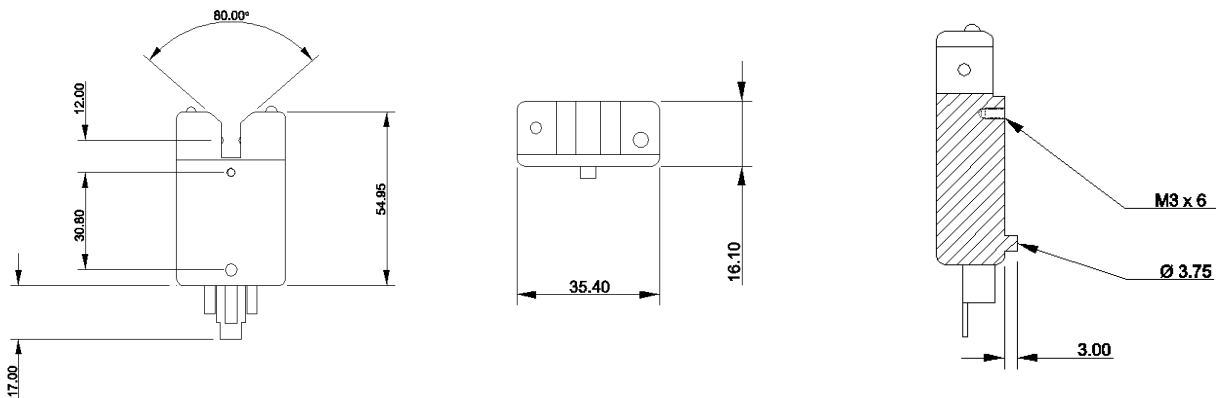


Characteristics:

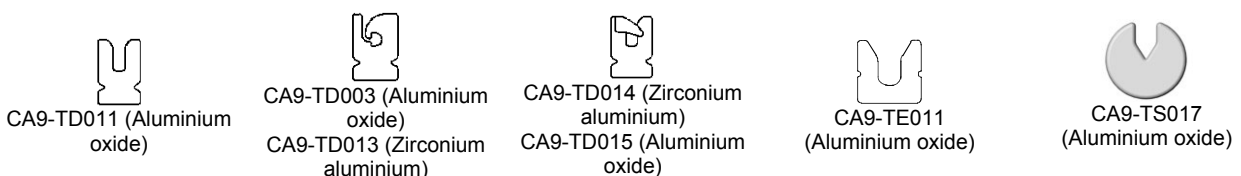
- Power supply : 18 to 30 V DC
- 1 NPN or PNP power output
- An inhibition push button
- An analogical input to tune the sensor level and mode or for inhibition
- Visual alarm (LED)
- Connection by cable or connector

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

Dimensions (mm)



One of these guides can be adapted on the **MOS** :



Codification board

MOS-			X	X	X	X	X	X
Inhibition / Pilot light / Inhibition								
Push button	LED	Ext. input						
Without	Without	Without	1					
With	Without	Without	2					
Without	With	Without	3					
With	With	Without	4					
Without	Without	With	5					
With	Without	With	6					
Without	With	With	7					
With	With	With	8					
Guides								
Without guide				0				
CA9-TD011				1				
CA9-TD003				2				
CA9-TD013				3				
CA9-TD014				4				
CA9-TE011				5				
CA9-TD015				6				
CA9-TS017				8				
Connections								
By cable					1			
By connector					2			
Response time (s)								
1.5						7		
3						9		
Output								
NPN Normally open (NO)							1	
PNP Normally open (NO)							2	
NPN Normally close (NC)							3	
PNP Normally close (NC)							4	
Type of sensor								
Tuning by switch								1

Example

MOS-802711 :

- 8 : with push-button, LED and external inhibition input
- 0 : without guide
- 2 : with Lumberg 2,5 MSFW 5 connector
- 7 : response time of 1.5 s
- 1 : NPN output Normally open (NO)
- 1 : tuning by switch

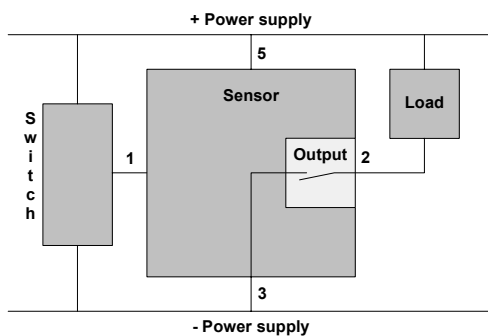
Sensors from the new range can be mounted on the FIL CONTROL standard rail (Ref. : 423800 and 423807) by the mean of bracket (Ref. : 423802).

Technical characteristics

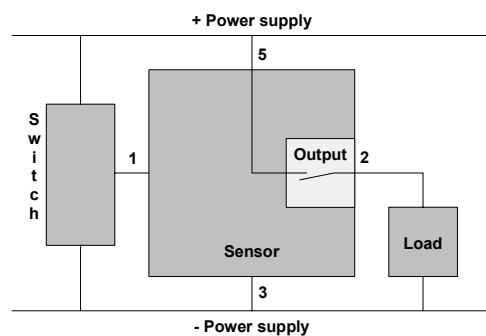
Parameters	Conditions	Min	Typ	Max
Power supply voltage (V)		18	24	30
Sensor consumption (mA)	Own current consumption at 24 V DC and at 25°C. External inhibition and output not connected	-	22	25
	Light ON		7,5	10,5
	Light OFF			
Ripple voltage at 100 Hz	Supply voltage peaks < 30 V	-	-	80%
Delay between detection and move start (s)	On request	-	3	-
Dropout voltage at the output (V)	Output current < 1 A	-	1,2	1,6
Min. current driven by the output (A)	Voltage at the output < 32 V	1	-	-
Max. voltage at the output (V)		-	-	50
Level on the inhibition input (V)	Supply voltage = 24 V			
	High level	10,7	-	
	Low level			3,8
Current in the inhibition input (mA)	Supply voltage = 24 V			
	Low level	-	-	5,3
Immunity to the perturbations (kV)	Positive and negative			
	Injected	4	-	-
	Inducted	4		
	Radiated	4		
Temperature range (°C)				
	For storage	-25	-	85
	For operation	0		50
Relative humidity		-	-	80%
Yarn diameter to check (mm)		-	-	2
Scrolling speed (m/min)		10	-	1000
Number of tuning parameters		-	5	-

Setting up procedure

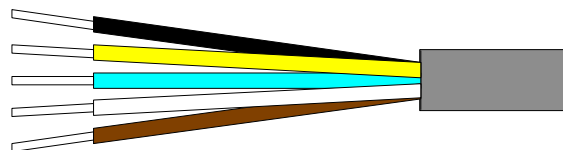
Standard configuration
Output NPN-NO



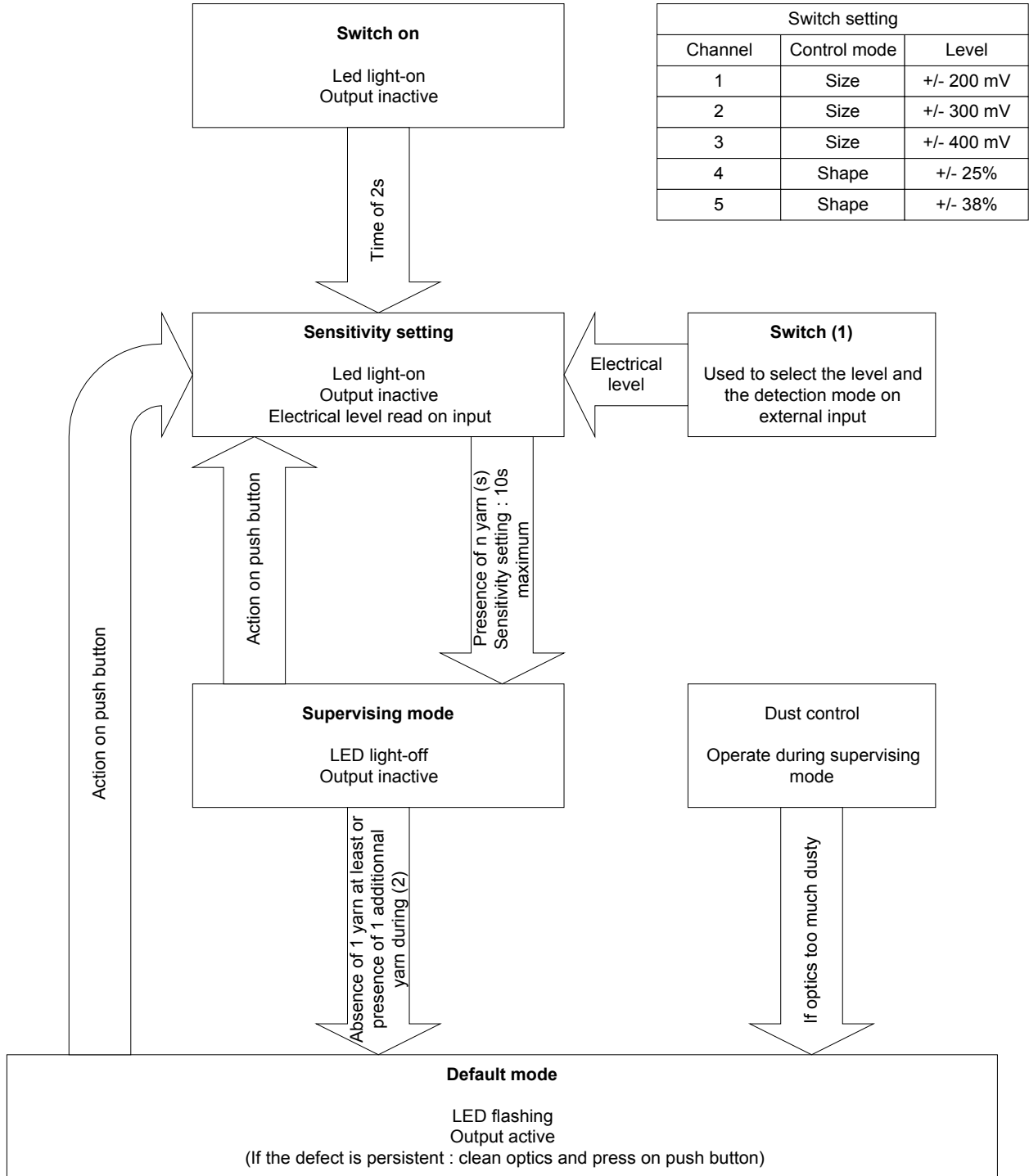
Standard configuration
Output PNP-NO



- Black wire : External input or tuning 1
- Yellow wire : Output all or nothing 2
- Blue wire : - supply 3
- White wire : No connected 4
- Brown wire : + supply 5



Function diagram



(1) : Switch reference SWITCH-425407.
 (2) : See response time on the codification board.