FIL CONTROL
GROUPE ELSIDEV
ELectronique électromécanique
Service
Industrialisation
DEVeloppement

ISO 9001
AFAQ N ° 1997 / 6834a

MCS
Capacitive sensor range

FIL CONTROL REV : 4

Description

Application: The MCS is a capacitive technology yarn sensor recommended when yarn speed is very low (≤ 20 m/mn), when yarn count is less than 20 dtex and/or when the sensor is mounted in an environment showing high electromagnetic level of perturbations. 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.

Principle: Voltage variations generated by accumulative electrostatic charges are analysed by the sensor. Dirt does not influence the sensor.

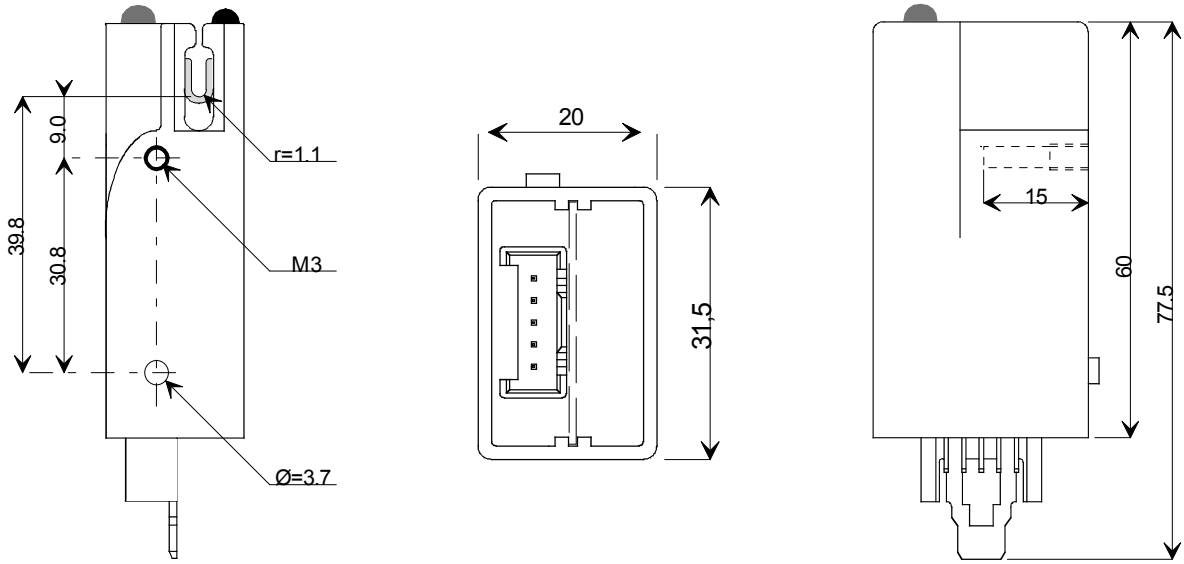
Electrical protection: Reversed polarity and high level overload on output have no influence on the MCS. It shows a very high level of electromagnetic compatibility (EMC).

Characteristics :

- Power supply : 18 to 30 V DC
- 1 or 2 outputs NPN or PNP
- Inhibition switch
- External inhibition input
- Visual alarm (red LED)
- Connection cable or Lumberg 2,5 MSFW 5 connector
- The sensor sensitivity is adapted to operator's requirements

These characteristics are adapted to operator's requirements. (Referenced to the codification board)

Dimensions (mm)



One of these guides can be adapted on the MCS :

CA9-TD011
(Aluminium oxide)

CA9-TD003 (Aluminium oxide)
CA9-TD013 (Zirconium aluminium)

CA9-TD014 (Zirconium aluminium)
CA9-TD015 (Aluminium oxide)

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Characteristic codification

MCS-			X	X	X	X	X
Inhibition / Pilot light / Inhibition							
Push button	**LED**	**External 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-TD015				5			
Connections							
By cable					1		
By connector					2		
Response time (ms)							
100						3	
200						4	
600						5	
900						6	
Output							
NPN Normally open (NO)							1
PNP Normally open (NO)							2
NPN Normally close (NC)							3
PNP Normally close (NC)							4
2 NPN NO							5
1 NPN NO + 1NPN NC							6
1NPN + 1 PNP NO							7
1NPN + 1 PNP NC							8
1 NPN NO + 1 PNP NC							9

Example

MCS-80261 :

- 8 : with push-button, LED and external inhibition input
- 0 : without guide
- 2 : with Lumberg 2,5 MSFW 5 connector
- 6 : response time of 900 ms
- 1 : NPN output Normally Open (NO)

Sensors from the new range can be mounted on the FIL CONTROL standard rail (ref. : 423800), by the mean of bracket (ref. : 423801).

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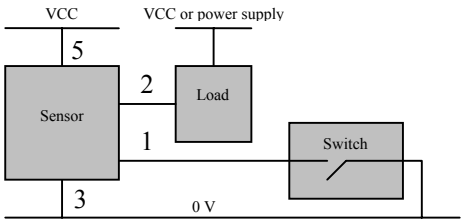
Technical characteristics

Parameters	Conditions	Min	Typ	Max
Power supply voltage (V)		18	24	30
Sensor consumption (mA) Indicator light ON Indicator light OFF	Own current consumption at 24 V DC and at 25°C. Inhibition input and output not connected	-	22 11,5	25 14,5
Ripple voltage at 100 Hz	Supply voltage peaks < 30 V	-	-	80%
Delay between detection and move start (s)	On request	-	1	-
Dropout voltage at the output (V)	Output current < 1.6 A	-	0,5	1,1
Min. current driven by the output (A)	Voltage at the output < 32 V	1,6	-	-
Max. voltage at the out put (V)		-	-	50
Logical level on the configuration input (V) High level Low level	Supply voltage = 24 V	10	-	3
Current in the configuration input (mA) Low level	Supply voltage = 24 V	-	-	5,3
Immunity to the perturbations (kV) Injected Inducted Radiated	Positive and negative	4 4 4	-	-
Temperature range (°C) For storage For operation		-25 0	-	85 50
Relative humidity		-	-	80%

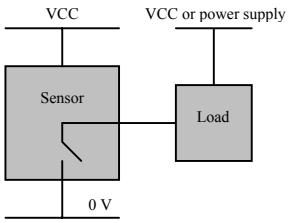
Setting up procedure

Standard connection



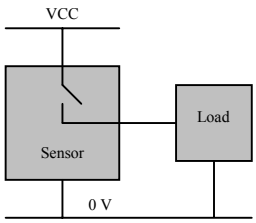
1 : External inhibition input
2 : NPN output

Standard configuration
Output NPN-NO



Presence of yarn

Other configuration
Output PNP-NO



Presence of yarn

Global Operations

State	LED	Output	External input
Switch-on	Light-on	Inactive	Active level 0 (0V) Inactive level 1 (24V)
Inhibition	Light-on	Inactive	
Presence of yarn	Light-off	Inactive	
Absence of yarn	Blinking	Active	

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