



Application	Connected to turn detection sensors, the tachometers relays monitor the RPM of motors, turbines, generators, etc., to act on the selected detection points.	
Measurement magnitude	Revolutions per minute (RPM)	
<b>Working mode</b>		
Over-RPM detection	Relay status OFF: The relay activates when the number of RPM is greater than the adjusted value and deactivates when the number of RPM is 3% less than said value. Relay status ON: The relay acts in reverse to the operation indicated above.	
Low-RPM detection	When the supply voltage is connected, the relay is activated instantly and remains in this state for the set time. After this time: Relay status ON: if the number of RPM is less than the set value, the relay sin deactivates. It is activated when the RPM number is 3% higher than said value. Relay status OFF: The relay acts in reverse to the operation indicated above.	
<b>Technical data</b>		
Type of sensor	<ul style="list-style-type: none"> <li>· PNP o NPN, 3 wires. 10 mA / 24 VDC</li> <li>· Namur</li> <li>· Dry contact, potential free</li> </ul>	
Operating ranges	<ul style="list-style-type: none"> <li>· 300: 30 .. 300 RPM</li> <li>· 3000: 300 .. 3000 RPM</li> <li>· 15000: 1500 .. 15000 RPM</li> </ul>	
Hysteresis	3%, fixed.	
Response time	Equal to the interval between two consecutive pulses.	
Timing	Adjustable from 0 to 30 s, $\pm 10\%$ . It only works in low-RPM detection, when the supply voltage is connected.	
Status Indication	<ul style="list-style-type: none"> <li>Yellow LED: Pulse input</li> <li>Red LED: Relay activated</li> <li>Green LED: Supply voltage</li> </ul>	
<b>Operating diagrams</b>		
Detection by low-RPM	Low-RPM   Relay OFF	Low-RPM   Relay ON
Detection by over-RPM	Over-RPM   Relay OFF	Over-RPM   Relay ON

Adjust mode		
Function		Select the working mode (over-RPM, under-RPM) and the status of the relay under normal working conditions.
Range		Select the full scale of the working range that most closely approximates, by the high side, the RPM value to be controlled.
R.P.M.		Adjust the trigger point taking into account the value selected in the RANGE button: · 300 : From 30 to 300 RPM · 3000 : From 300 to 3000 RPM · 15000 : From 1500 to 15000 RPM
Time		It only works in low-RPM detection mode: adjust the time it takes for the process to go into revolutions.

Electrical wiring		
PHAA		<p>ALL VERSIONS</p> <p>12VDC VERSION</p>
DHAA		

**COMPOSITION OF THE REFERENCE**

Housing	Pluggable PHAA	
	DIN rail DHAA	
Voltage	24 VAC/DC	U24
	24 VDC	724
	24 VAC	024
	110 VAC	110
	230 VAC	230
	400 VAC	400
	440 VAC	440
	15..70 VAC/DC	901
60..240 VAC/DC	902	
Range	30..15000 RPM	15K

**OUTPUT RELAY**

Model	PxxA	DxxA
Resist.load AC   DC	10A/250V   10A/24V	10A/250V   10A/24V
Inductive load AC   DC	5A/250V   5A/24V	5A/250V   5A/24V
Mechanical life	> 30 x 10 <sup>6</sup> opérations	> 30 x 10 <sup>6</sup> opérations
Maneuvers	72.000 operations/hour	72.000 operations/hour
Electric life	360 operations/hour	360 operations/hour
Contact material	AgNi 90/10	AgNi 90/10
Max. voltage	440 VAC	440 VAC
Operating voltage	250 VAC	250 VAC
Between changeovers	2500 VAC	2500 VAC
Between contacts	1000 VAC	1000 VAC
Coil/contact voltage	5000 VAC	5000 VAC
Coil/contact distance	10 mm	10 mm
Insulation resistance	> 10 <sup>4</sup> Mohms	> 10 <sup>4</sup> Mohms

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**SUPPLY VOLTAGE**

Model   Voltage	PxxA   CA	DxxA   CA	PxxA   CC	DxxA   CC	PxxA   CA/CC	DxxA   CA/CC
Galvanic isolation	Yes	Yes	No	No	Yes	Yes
Frequency	50/60 Hz	50/60 Hz	-	-	-	-
Working ranges	=	=	=	=	No	No
Consumption	1,4 VA	1,4 VA	1 W	1 W	1 W	1 W
Positive	-	-	Terminal 2	Terminal A1	Terminal 2	Terminal A1
Protected polarity	-	-	Yes	Yes	Yes	Yes

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**CONSTRUCTION AND ENVIRONMENTAL DATA**

Model	PxxA	DxxA
Phase-neutral voltage	300 V	300 V
Overvoltage category	III	III
Shock voltage	4 kV	4 kV
Pollution degree	2	3
Protection class	IP 20 B	IP 20
Approximate weight	250 g	280 g
Storage temperature	-50°C .. +85°C	-50°C .. +85°C
Work temperature	-20°C .. +50°C	-20°C .. +50°C
Humidity	30 .. 85% HR	30 .. 85% HR

## MATERIALS

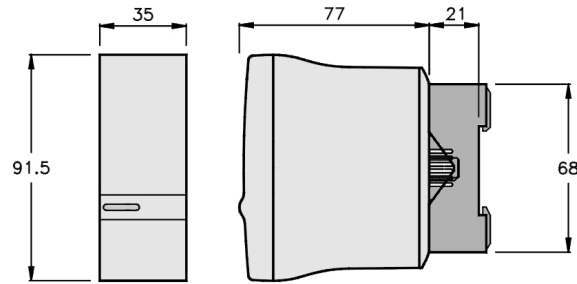
Model	PxxA	DxxA
Housing	Cycoloy   Light grey	Cycoloy   Light grey
Socket	Lexan Light grey	-
LED display	Lexan   Transparent	Lexan   Transparent
Buttons	Technyl   Dark blue	Technyl   Dark blue
Terminal blocks and flange	-	Technyl   Dark blue
Socket terminals	Nickel plated brass	-
Block terminals	-	Brass

## NORMS

Design and manufacturing	ECC standard
Electromagnetic compatibility	EMC 2014/30/UE from 02/26/2014 - Emission (EN 6100 6-4/2007/A1:2011) - Immunity (UNE-EN 6100 6-2/2006)
Low voltage directive	LVD 2014/35/UE from 02/26/2014 - Machinery (UNE-EN 60204-1/2007/A 1:2009) - Electronic measuring devices (UNE-EN 61010-1/2011)
Hazardous substances	Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr +6), Polybrominated biphenyls (PBB), Diphenyl ethers (PBDE), Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Bybutyl phthalate (DBP) and Diisobutyl phthalate (DIBP). Any trace of impurities of the substances in the parts is below the levels specified by RoHS. No exceptions are made.
Plastics	UL 91 V0

## DIMENSIONS

Models Pxxx (mm)



Models Dxxx (mm)

