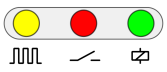
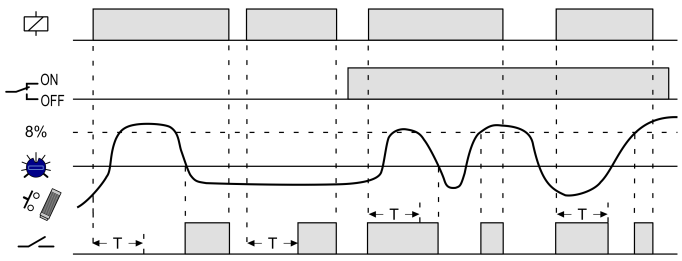
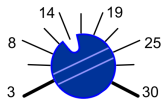
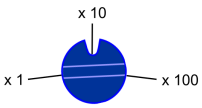
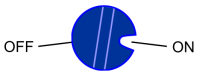
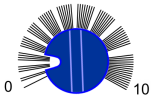
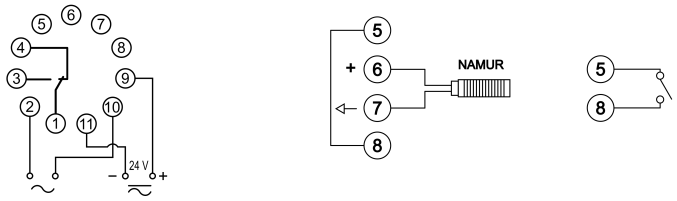
Application	Control of minimum revolutions in engines, turbines, shafts, etc. Special for very low revolutions.
Measurement magnitude	Revolutions per minute (RPM)
Working mode	
Passive surveillance	Selector in OFF position. When the supply voltage is switched on, the time set on the timer control starts. After it, if the revolutions have not exceeded the set RPM value, the relay is activated instantly and does not deactivate until the RPM exceeds this value by 8%. On the contrary, if at the end of the initial time the RPM exceeds the set value, the relay remains deactivated. When the RPM falls below the set value, the relay is activated immediately and does not deactivate until the RPM exceeds this value by 8%.
Active surveillance	Selector switch in ON position. When the supply voltage is connected, the relay is activated instantly and the time set in the timer knob starts. After it has elapsed, if the revolutions have not exceeded the set RPM value, the relay deactivates and does not activate until the RPM exceeds this value by 8%. On the contrary, if at the end of the initial time the RPM exceeds the set value, the relay remains activated. When the RPM falls below the set value, the relay deactivates and does not activate until the RPM exceeds this value by 8%.
Technical data	
Type of sensor	· Namur · Dry contact, potential free
Operating ranges	· 3 .. 30 RPM · 30 .. 300 RPM · 300 .. 3000 RPM
Hysteresis	8%, fixed.
Minimum pulse	2 ms
Response time	Equal to the interval between two consecutive pulses.
Timing	Adjustable from 0 to 10 s, ± 10%. It only works when the supply voltage is connected.
Status Indication	 Yellow LED: Pulse input Red LED: Relay activated Green LED: Supply voltage
Power supply	
Operating diagrams	
	

Adjust mode

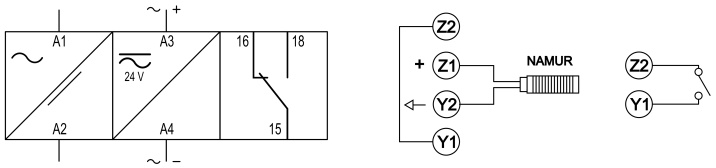
R.P.M.		Adjust the set point taking into account the multiplier value selected on the SCALE button.
Scale		RPM value multiplier factor.
Working mode		OFF: Passive surveillance ON: Active surveillance
Time		Adjust the time it takes for the process to get up to speed.

Electrical wiring

PHBA



DHBA

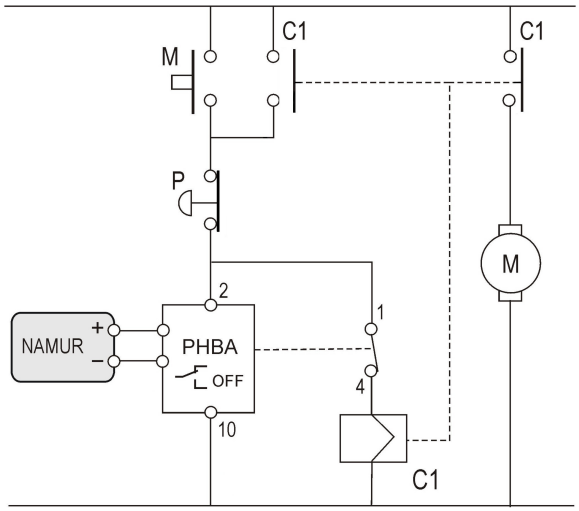


COMPOSITION OF THE REFERENCE

Housing	Pluggable	PHBA	
	DIN rail	DHBA	
Voltage	24 VAC	024	
	48 VAC	048	
	110 VAC	110	
	230 VAC	230	*
Range	30..3000 RPM	3K	

EXAMPLES OF INSTALLATION

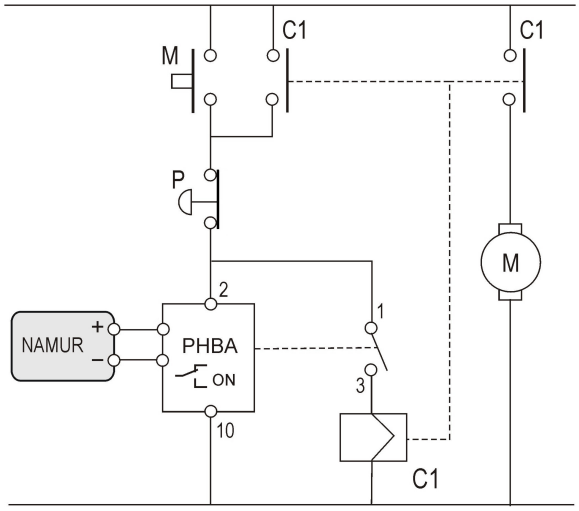
Passive surveillance



The relay mode selector must be in the OFF position.

When the low RPM detection relay is activated, the engine stops.

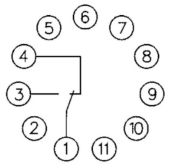
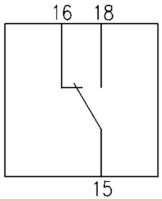
Active surveillance



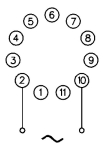
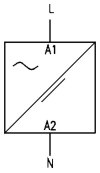
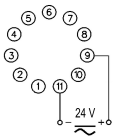
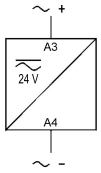
The relay mode selector must be in the ON position.

When the relay is deactivated by low RPM detection, sensor failure, or wiring break, the engine stops.
For greater security of the installation, we recommend the use of this type of surveillance.

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 10^6 opérations	> 30 x 10^6 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	> 10^4 Mohms	> 10^4 Mohms
		

SUPPLY VOLTAGE

Model | Voltage	PHBA | CA	DHBA | CA	PHBA | CA/CC	DHBA | CA/CC
Galvanic isolation	Yes	Yes	No	No
Frequency	50/60 Hz	50/60 Hz	-	-
Working ranges	=	=	No	No
Consumption	1,4 VA	1,4 VA	1 W	1 W
Positive	-	-	Terminal 9	Terminal A3
Protected polarity	-	-	Yes	Yes
				

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	-50ºC .. +85ºC	-50ºC .. +85ºC
Work temperature	-20ºC .. +50ºC	-20ºC .. +50ºC
Humidity	30 .. 85% HR	30 .. 85% HR

MATERIALS

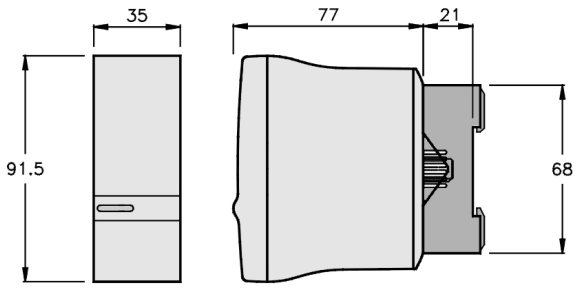
Model	PxxA	DxxA
Housing	Cycoloy | Light grey	Cycoloy | Light grey
Socket	Lexan Light grey	-
LED display	Lexan | Transparent	Lexan | Transparent
Buttons	Technyl | Dark blue	Technyl | Dark blue
Terminal blocks and flange	-	Technyl | Dark blue
Socket terminals	Nickel plated brass	-
Block terminals	-	Brass

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	Directive on certain dangerous substances 2011/65/CEE of 06/08/2011 and in amendment Annex II 2015/863/UE. The products do not contain: 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 excepcions are made.
Plastics	UL 91 V0

DIMENSIONS

Models Pxxx (mm)



Models Dxxx (mm)