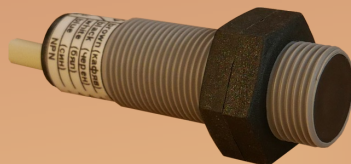
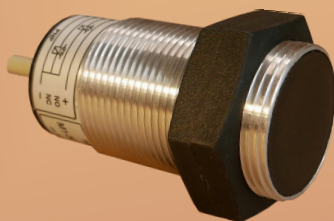


"ESA Control" Ltd



INDUCTIVE  
PROXIMITY SENSORS  
FOR SPEED CONTROL  
"AC"



Bulgaria  
5300 Gabrovo  
3, Stancionna str.  
Tel./fax: +359 66 860543  
E-mail: [office@esa-control.com](mailto:office@esa-control.com)  
Site: <http://www.esa-control.com>

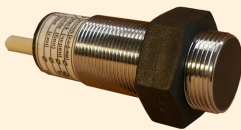


fig.1

Application and operating principle

The presented inductive sensor serve to monitor the minimum turnovers of conveyor belts, elevators, lifts, shafts and other rotating parts. It is used in alternating current electrical circuits. After applying the supply voltage the output of the sensor remain included for 7 seconds - the necessary time for acceleration of the slow-moving mechanisms. If turnovers of the rotating mechanism exceed the given ones, the output of the sensor remain on. But if turnovers the rotating mechanism are lesser than the given, the output of the sensor turn off. The minimum turnovers are set by trimmer potentiometer located at the back of sensor. It has two LED's: a red one - indicating the output signal of the sensor and green one - indicating the length of the incoming pulses.

Note: Sensor marked at the end with the letter "Z": after turning off the output, restore its operation by turning off and on the supply voltage (option on request).

Technical parameters

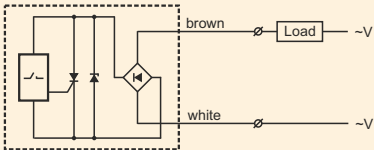
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, <i>N</i> <sub>max</sub>	1200 rpm
Switching distance, <i>S</i> <sub>n</sub>	5,0 mm
Hysteresis, <i>h</i>	4...15%
Supply voltage, <i>U</i> <sub>s</sub>	90...240 Vac / 40...60 Hz (U1) 40...100 Vac / 40...60 Hz (U2) 20... 50 Vac / 40...60 Hz (U3)
Residual voltage, <i>U</i> <sub>res</sub>	4.4 Vac
Load current (max), <i>I</i> <sub>out</sub>	10...300mA
Current consumption, <i>I</i> <sub>s</sub>	1,5mA
Output element	Thyristor
Operating temperature range, <i>T</i> <sub>amb</sub>	-25...+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	2x0.5mm <sup>2</sup> , L=2m, PVC
Overall dimensions	M18x1, L = 59mm
Housing - metallic	CuZn (Ni plated)

Features:  
There is no protection against short circuit at the output.  
**Note:** If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISM1-18.71.U1	NO
ISM1-18.71.U1Z	NO

Electrical circuit of connection



Scheme 71 (NO)



fig.1

Application and operating principle

The presented inductive sensor serve to monitor the minimum turnovers of conveyor belts, elevators, lifts, shafts and other rotating parts. It is used in alternating current electrical circuits. After applying the supply voltage the output of the sensor remain included for 7 seconds - the necessary time for acceleration of the slow-moving mechanisms. If turnovers of the rotating mechanism exceed the given ones, the output of the sensor remain on. But if turnovers the rotating mechanism are lesser than the given, the output of the sensor turn off. The minimum turnovers are set by trimmer potentiometer located at the back of sensor. It has two LED's: a red one - indicating the output signal of the sensor and green one - indicating the length of the incoming pulses.

Note: Sensor marked at the end with the letter "Z": after turning off the output, restore its operation by turning off and on the supply voltage (option on request).

Technical parameters

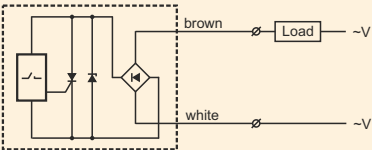
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, <i>N</i> max	1200 rpm
Switching distance, <i>S</i> n	8,0 mm
Hysteresis, <i>h</i>	4...15%
Supply voltage, <i>U</i> s	90...240 Vac / 40...60 Hz (U1) 40...100 Vac / 40...60 Hz (U2) 20... 50 Vac / 40...60 Hz (U3)
Residual voltage, <i>U</i> res	4.4 Vac
Load current (max), <i>I</i> out	10...300mA
Current consumption, <i>I</i> s	1,5mA
Output element	Thyristor
Operating temperature range, <i>T</i> amb	-25...+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	2x0.5mm², L=2m, PVC
Overall dimensions	M18x1, L = 59mm
Housing - plastic	PVC

Features:  
There is no protection against short circuit at the output.  
**Note:** If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISP1-18.71.U1	NO
ISP1-18.71.U1Z	NO

Electrical circuit of connection



Scheme 71 (NO)

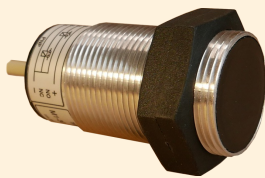


fig.1

Application and operating principle

The presented inductive sensor serve to monitor the minimum turnovers of conveyor belts, elevators, lifts, shafts and other rotating parts. It is used in alternating current electrical circuits. After applying the supply voltage the output of the sensor remain included for 7 seconds - the necessary time for acceleration of the slow-moving mechanisms. If turnovers of the rotating mechanism exceed the given ones, the output of the sensor remain on. But if turnovers the rotating mechanism are lesser than the given, the output of the sensor turn off. The minimum turnovers are set by trimmer potentiometer located at the back of sensor. It has two LED's: a red one - indicating the output signal of the sensor and green one - indicating the length of the incoming pulses.

Note: Sensor marked at the end with the letter "Z": after turning off the output, restore its operation by turning off and on the supply voltage (option on request).

Technical parameters

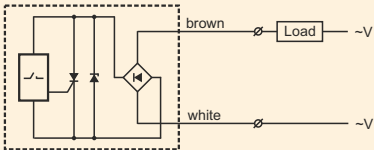
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, <i>N</i> <sub>max</sub>	1200 rpm
Switching distance, <i>S</i> <sub>n</sub>	9,5 mm
Hysteresis, <i>h</i>	4...15%
Supply voltage, <i>U</i> <sub>s</sub>	90...240 Vac / 40...60 Hz (U1) 40...100 Vac / 40...60 Hz (U2) 20... 50 Vac / 40...60 Hz (U3)
Residual voltage, <i>U</i> <sub>res</sub>	4.4 Vac
Load current (max), <i>I</i> <sub>out</sub>	10...300mA
Current consumption, <i>I</i> <sub>s</sub>	1,5mA
Output element	Thyristor
Operating temperature range, <i>T</i> <sub>amb</sub>	-25...+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	2x0.5mm <sup>2</sup> , L=2m, PVC
Overall dimensions	M30x1.5, L = 61mm
Housing - metallic	Al (Aluminum)

Features:  
There is no protection against short circuit at the output.  
**Note:** If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISM1-30.71.U1	NO
ISM1-30.71.U1Z	NO

Electrical circuit of connection



Scheme 71 (NO)



fig.1

Application and operating principle

The presented inductive sensor serve to monitor the minimum turnovers of conveyor belts, elevators, lifts, shafts and other rotating parts. It is used in alternating current electrical circuits. After applying the supply voltage the output of the sensor remain included for 7 seconds - the necessary time for acceleration of the slow-moving mechanisms. If turnovers of the rotating mechanism exceed the given ones, the output of the sensor remain on. But if turnovers the rotating mechanism are lesser than the given, the output of the sensor turn off. The minimum turnovers are set by trimmer potentiometer located at the back of sensor. It has two LED's: a red one - indicating the output signal of the sensor and green one - indicating the length of the incoming pulses.

Note: Sensor marked at the end with the letter "Z": after turning off the output, restore its operation by turning off and on the supply voltage (option on request).

Technical parameters

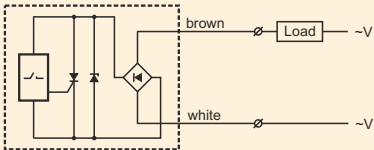
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, <i>N</i> <sub>max</sub>	1200 rpm
Switching distance, <i>S</i> <sub>n</sub>	14,0 mm
Hysteresis, <i>h</i>	4...15%
Supply voltage, <i>U</i> <sub>s</sub>	90...240 Vac / 40...60 Hz (U1) 40...100 Vac / 40...60 Hz (U2) 20... 50 Vac / 40...60 Hz (U3)
Residual voltage, <i>U</i> <sub>res</sub>	4.4 Vac
Load current (max), <i>I</i> <sub>out</sub>	10...300mA
Current consumption, <i>I</i> <sub>s</sub>	1,5mA
Output element	Thyristor
Operating temperature range, <i>T</i> <sub>amb</sub>	-25...+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	2x0.5mm <sup>2</sup> , L=2m, PVC
Overall dimensions	M30x1.5, L = 61mm
Housing - plastic	PVC

Features:  
There is no protection against short circuit at the output.  
**Note:** If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

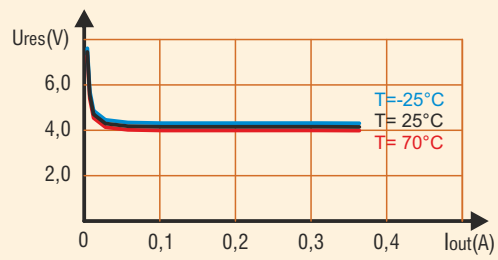
Type parameters

Type	Output function
ISP1-30.71.U1	NO
ISP1-30.71.U1Z	NO

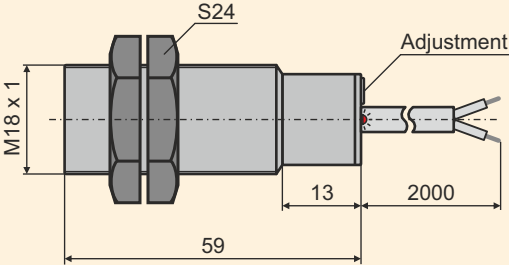
Electrical circuit of connection



Scheme 71 (NO)



M18



M30

