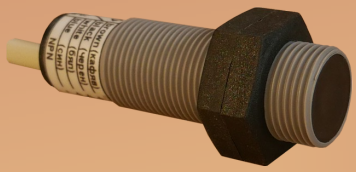
"ESA Control" Ltd

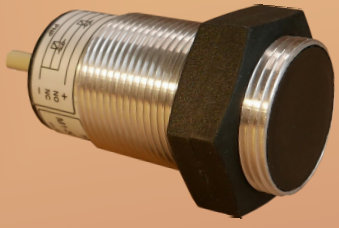


INDUCTIVE

PROXIMITY SENSORS

FOR SPEED CONTROL

“DC”



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Inductive proximity sensor for speed control, 3-wire, DC

ISM1-18

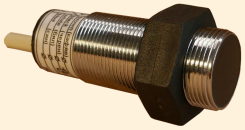


fig.1

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 direct 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

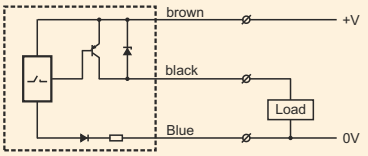
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, *Nmax*	36000 rpm
Switching distance, *Sn*	5,0 mm
Hysteresis, *h*	4...15%
Supply voltage, *Us*	10...30VDC (Ripple ±10 %)
Output voltage (max), *Uout*	35VDC (open collector)
Residual voltage, *Ures*	0,8V (I = 250mA)
Load current (max), *Iout*	250mA
Protection of output (scanning), *Iprot*	350mA (25°C)
Current consumption, *Is*	9mA
Fall time, Rise time, *tf / tr*	0,6µs / 0,2µs
Operating temperature range, *Tamb*	-25…+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	3x0.25mm², L=2m, PVC
Overall dimensions	M18x1, L = 59mm
Housing - metallic	CuZn (Ni plated)

Protection from reverse inclusion of the supply voltage.
Protection of the outputs from overcurrent and short circuit.
Note: If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISM1-18.11.K	PNP / NO
ISM1-18.11.KZ	PNP / NO

Electrical circuit of connection



Scheme 11 (PNP / NO)

Inductive proximity sensor for speed control, 3-wire, DC

ISP1-18

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 direct 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

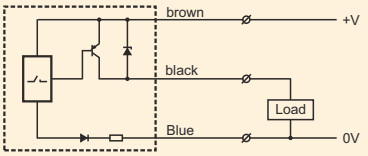
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, *Nmax*	24000 rpm
Switching distance, *Sn*	8,0 mm
Hysteresis, *h*	4...15%
Supply voltage, *Us*	10...30VDC (Ripple ±10 %)
Output voltage (max), *Uout*	35VDC (open collector)
Residual voltage, *Ures*	0,8V (I = 250mA)
Load current (max), *Iout*	250mA
Protection of output (scanning), *Iprot*	350mA (25°C)
Current consumption, *Is*	9mA
Fall time, Rise time, *tf / tr*	0,6µs / 0,2µs
Operating temperature range, *Tamb*	-25…+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	3x0.25mm^2, L=2m, PVC
Overall dimensions	M18x1, L = 59mm
Housing - plastic	PVC

Protection from reverse inclusion of the supply voltage.
Protection of the outputs from overcurrent and short circuit.
Note: If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISP1-18.11.K	PNP / NO
ISP1-18.11.KZ	PNP / NO

Electrical circuit of connection



Scheme 11 (PNP / NO)

Inductive proximity sensor for speed control, 3-wire, DC

ISM1-30

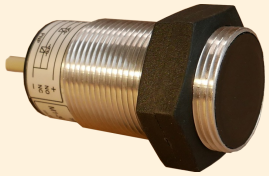


fig.1

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 direct 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

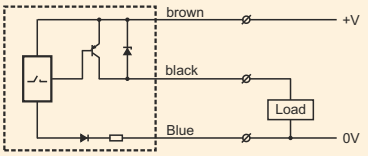
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, *Nmax*	12000 rpm
Switching distance, *Sn*	9,5 mm
Hysteresis, *h*	4...15%
Supply voltage, *Us*	10...30VDC (Ripple ±10 %)
Output voltage (max), *Uout*	35VDC (open collector)
Residual voltage, *Ures*	0,8V (I = 250mA)
Load current (max), *Iout*	250mA
Protection of output (scanning), *Iprot*	350mA (25°C)
Current consumption, *Is*	9mA
Fall time, Rise time, *tf / tr*	0,6µs / 0,2µs
Operating temperature range, *Tamb*	-25…+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	3x0.25mm^2, L=2m, PVC
Overall dimensions	M30x1.5, L = 61mm
Housing - metallic	Al (Aluminum)

Protection from reverse inclusion of the supply voltage.
Protection of the outputs from overcurrent and short circuit.
Note: If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISM1-30.11.K	PNP / NO
ISM1-30.11.KZ	PNP / NO

Electrical circuit of connection



Scheme 11 (PNP / NO)

Inductive proximity sensor for speed control, 3-wire, DC

ISP1-30

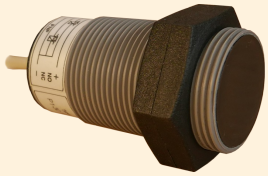


fig.1

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 direct 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

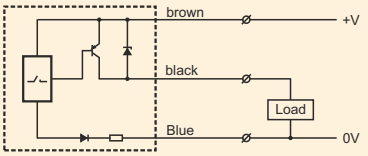
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, *Nmax*	6000 rpm
Switching distance, *Sn*	14,0 mm
Hysteresis, *h*	4...15%
Supply voltage, *Us*	10...30VDC (Ripple ±10 %)
Output voltage (max), *Uout*	35VDC (open collector)
Residual voltage, *Ures*	0,8V (I = 250mA)
Load current (max), *Iout*	250mA
Protection of output (scanning), *Iprot*	350mA (25°C)
Current consumption, *Is*	9mA
Fall time, Rise time, *tf / tr*	0,6µs / 0,2µs
Operating temperature range, *Tamb*	-25…+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	3x0.25mm^2, L=2m, PVC
Overall dimensions	M30x1.5, L = 61mm
Housing - plastic	PVC

Protection from reverse inclusion of the supply voltage.
Protection of the outputs from overcurrent and short circuit.
Note: If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISP1-30.11.K	PNP / NO
ISP1-30.11.KZ	PNP / NO

Electrical circuit of connection



Scheme 11 (PNP / NO)

Inductive proximity sensor for speed control, 3-wire, DC

ISM1-40

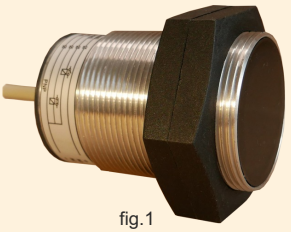


fig.1

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 direct 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

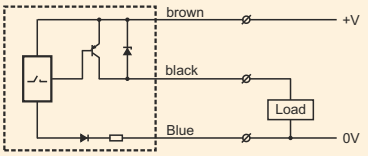
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, *Nmax*	5400 rpm
Switching distance, *Sn*	14,0 mm
Hysteresis, *h*	4...15%
Supply voltage, *Us*	10...30VDC (Ripple ±10 %)
Output voltage (max), *Uout*	35VDC (open collector)
Residual voltage, *Ures*	0,8V (I = 250mA)
Load current (max), *Iout*	250mA
Protection of output (scanning), *Iprot*	350mA (25°C)
Current consumption, *Is*	9mA
Fall time, Rise time, *tf / tr*	0,6µs / 0,2µs
Operating temperature range, *Tamb*	-25…+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	3x0.25mm², L=2m, PVC
Overall dimensions	M40x1.5, L = 55mm
Housing - metallic	Al (Aluminum)

Protection from reverse inclusion of the supply voltage.
Protection of the outputs from overcurrent and short circuit.
Note: If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

Type parameters

Type	Output function
ISM1-40.11.K	PNP / NO
ISM1-40.11.KZ	PNP / NO

Electrical circuit of connection



Scheme 11 (PNP / NO)

Inductive proximity sensor for speed control, 3-wire, DC

ISP1-40

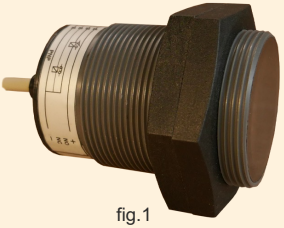


fig.1

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 direct 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

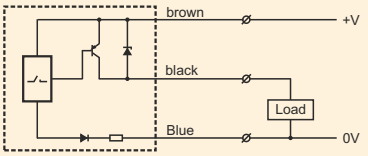
Range of regulation, N	6 ... 400 rpm
Maximum permissible revolutions, *Nmax*	4800 rpm
Switching distance, *Sn*	24,0 mm
Hysteresis, *h*	4...15%
Supply voltage, *Us*	10...30VDC (Ripple ±10 %)
Output voltage (max), *Uout*	35VDC (open collector)
Residual voltage, *Ures*	0,8V (I = 250mA)
Load current (max), *Iout*	250mA
Protection of output (scanning), *Iprot*	350mA (25°C)
Current consumption, *Is*	9mA
Fall time, Rise time, *tf / tr*	0,6µs / 0,2µs
Operating temperature range, *Tamb*	-25…+70°C
Degree of protection of the sensors	IP65
Light output indicator	2 x LED
Connection cable	3x0.25mm^2, L=2m, PVC
Overall dimensions	M40x1.5, L = 55mm
Housing - plastic	PVC

Protection from reverse inclusion of the supply voltage.
Protection of the outputs from overcurrent and short circuit.
Note: If the maximum permissible revolutions is exceeded, the output of the sensor turns off.

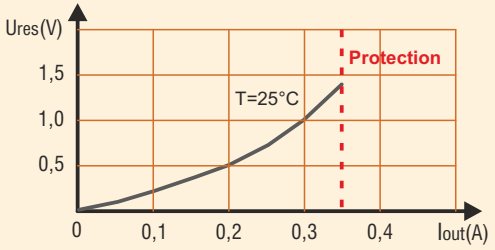
Type parameters

Type	Output function
ISP1-40.11.K	PNP / NO
ISP1-40.11.KZ	PNP / NO

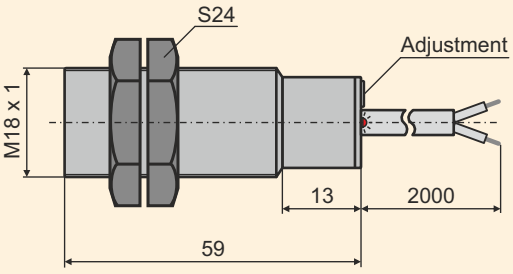
Electrical circuit of connection



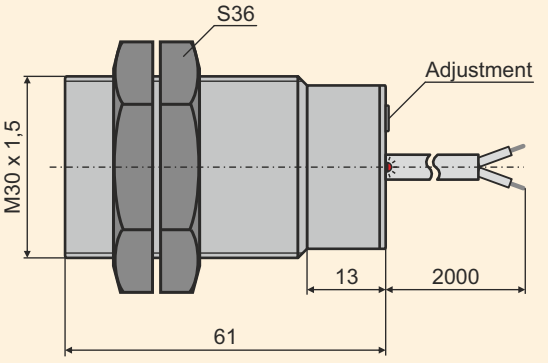
Scheme 11 (PNP / NO)


Ures(V)
1,5
1,0
0,5
0
0,1
0,2
0,3
0,4
Iout(A)
T=25°C
Protection

M18



M30



M40