"ESA Control" Ltd



ALTERNATING CURRENT

INDUCTIVE

PROXIMITY SENSORS

with connector, 2-wire, AC/U0



Bulgaria 5300 Gabrovo 3, Stancionna str. Tel./fax: +359 66 860543 E-mail: office@esa-control.com Site: http://www.esa-control.com

Inductive proximity sensors for alternating current with connector, 2-wire



Purpose and areas of application

The presented inductive proximity sensors ending with a connector serve to commutate 2-wire alternating current electric circuits. They act on the basis of induction - if a metal piece is brought to the active surface, the output switches over - the electric circuit opens or shuts. Lack of physical contact between object and inductive proximity sensors ensures their high reliability and long-lasting exploitation. They are used for automatic transfer lines, metalworking machines, textile, wood working, packaging and other machines. They find place in solving automation problems, especially in conditions of: high quantity of dust, moisture, lubricants and oils, under vibrations and prolonged regime of working.

Technical parameters

Operating voltage, Us Load current, lout Residual voltage, Ures1 Residual voltage, Ures2 Current consumption, Is Operating temperature range, Tamb Degree of protection of the sensors Output element Light output indicator Joining Protection when switching on without load Protection against reverse connection 12...250 Vac / 40...60 Hz 5...300 mA (5...500mA) 4.0 Vac & 15...500 mA 5.5 Vac & 5...15 mA 1 mA -25°...+70°C IP67 (IEC144) Thyristor LED M12 connector, 4-pins NO YES

Electrical schematics



Scheme 71C (NO - normally open)



Scheme 72C (NC - normally closed)

Output characteristic /residual voltage/





fig.1

Operating principle

The presented M12 proximity inductive sensor with connector serves to switch 2-wire alternating current circuits. Its output is switched when passing metal objects in front of its active part. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, Sn Measuring plate steel, St 37 Hysteresis, h Operating voltage, Us Load current, lout Residual voltage. Ures1 Residual voltage, Ures2 Current consumption (max), Is Switching frequency (max), fo Operating temperature range, Tamb Degree of protection Output element Light output indicator Protection when switching on without load Protection against reverse connection Joinina Overall dimensions Housing material

3.5 mm ±4% 12x12x1 mm 5...12% 12...250 Vac / 40...60 Hz 5...300 mA 4.0 Vac & 15...300 mA 5.5 Vac & 5...15 mA 1 mA 25 Hz -25°...+70° C IP67 (IEC144) Thyristor LED NO YES M12 connector, 4-pins M12x1, L=60 mm CuZn (Ni plated)

Type parameters

Туре	Output function	Scheme of connection
M1-12.71.CU0	NO	71C
M1-12.72.CU0	NC	72C







fig.1

Operating principle

The presented M18 proximity inductive sensor with connector serves to switch 2-wire alternating current circuits. Its output is switched when passing metal objects in front of its active part. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, Sn Measuring plate steel, St 37 Hysteresis, h Operating voltage, Us Load current, lout Residual voltage. Ures1 Residual voltage, Ures2 Current consumption (max), Is Switching frequency (max), fo Operating temperature range, Tamb Degree of protection Output element Light output indicator Protection when switching on without load Protection against reverse connection Joinina Overall dimensions Housing material

5.0 mm ±4% 18x18x1 mm 5...12% 12...250 Vac / 40...60 Hz 5.500 mA 4.0 Vac & 15...500 mA 5.5 Vac & 5...15 mA 1 mA 25 Hz -25°...+70° C IP67 (IEC144) Thyristor LED NO YES M12 connector, 4-pins M18x1, L=60 mm CuZn (Ni plated)

Type parameters

Туре	Output function	Scheme of connection
M1-18.71.CU0	NO	71C
M1-18.72.CU0	NC	72C







fig.1

Operating principle

The presented M18 proximity inductive sensor with connector serves to switch 2-wire alternating current circuits. Its output is switched when passing metal objects in front of its active part. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, Sn Measuring plate steel, St 37 Hysteresis, h Operating voltage, Us Load current, lout Residual voltage. Ures1 Residual voltage, Ures2 Current consumption (max), Is Switching frequency (max), fo Operating temperature range, Tamb Degree of protection Output element Light output indicator Protection when switching on without load Protection against reverse connection Joinina Overall dimensions Housing material

8.0 mm ±4% 18x18x1 mm 5...12% 12...250 Vac / 40...60 Hz 5...500 mA 4.0 Vac & 15...500 mA 5.5 Vac & 5...15 mA 1 mA 25 Hz -25°...+70° C IP67 (IEC144) Thyristor LED NO YES M12 connector, 4-pins M18x1, L=60 mm **PVC**

Type parameters

Туре	Output function	Scheme of connection
P1-18.71.CU0	NO	71C
P1-18.72.CU0	NC	72C









Operating principle

The presented M30 proximity inductive sensor with connector serves to switch 2-wire alternating current circuits. Its output is switched when passing metal objects in front of its active part. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, Sn Measuring plate steel, St 37 Hysteresis, h Operating voltage, Us Load current, lout Residual voltage. Ures1 Residual voltage, Ures2 Current consumption (max), Is Switching frequency (max), fo Operating temperature range, Tamb Degree of protection Output element Light output indicator Protection when switching on without load Protection against reverse connection Joinina Overall dimensions Housing material

9.5 mm ±4% 30x30x1 mm 5...12% 12...250 Vac / 40...60 Hz 5...500 mA 4.0 Vac & 15...500 mA 5.5 Vac & 5...15 mA 1 mA 25 Hz -25°...+70° C IP67 (IEC144) Thyristor LED NO YES M12 connector, 4-pins M30x1.5, L=64 mm AI (Aluminum)

Type parameters

Туре	Output function	Scheme of connection
M1-30.71.CU0	NO	71C
M1-30.72.CU0	NC	72C











Operating principle

The presented M30 proximity inductive sensor with connector serves to switch 2-wire alternating current circuits. Its output is switched when passing metal objects in front of its active part. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, Sn Measuring plate steel, St 37 Hysteresis, h Operating voltage, Us Load current, lout Residual voltage. Ures1 Residual voltage, Ures2 Current consumption (max), Is Switching frequency (max), fo Operating temperature range, Tamb Degree of protection Output element Light output indicator Protection when switching on without load Protection against reverse connection Joinina Overall dimensions Housing material

14.0 mm ±4% 30x30x1 mm 5...12% 12...250 Vac / 40...60 Hz 5.500 mA 4.0 Vac & 15...500 mA 5.5 Vac & 5...15 mA 1 mA 25 Hz -25°...+70° C IP67 (IEC144) Thyristor LED NO YES M12 connector, 4-pins M30x1.5, L=64 mm **PVC**

Type parameters

Туре	Output function	Scheme of connection
P1-30.71.CU0	NO	71C
P1-30.72.CU0	NC	72C





P3-60 inductive proximity sensor with connector for alternating current, 2-wire, unshielded type

P3-60/C





Operating principle

The presented P3-60 proximity inductive sensor with connector serves to switch 2-wire alternating current circuits. Its output is switched when passing metal objects in front of its active part. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, Sn Measuring plate steel, St 37 Hysteresis, h Operating voltage, Us Load current, lout Residual voltage. Ures1 Residual voltage, Ures2 Current consumption (max), Is Switching frequency (max), fo Operating temperature range, Tamb Degree of protection Output element Light output indicator Protection when switching on without load Protection against reverse connection Joining Overall dimensions Housing material

12.5 mm ±4% 30x30x1 mm 5...12% 12...250 Vac / 40...60 Hz 5...500 mA 4.0 Vac & 15...500 mA 5.5 Vac & 5...15 mA 1 mA 25 Hz -25°...+70° C IP67 (IEC144) Thyristor LED NO YES M12 connector, 4-pins 72x30x15 mm PA6 (Polyamide)

Type parameters

Туре	Output function	Scheme of connection
P3-60.71.CU0	NO	71C
P3-60.72.CU0	NC	72C











