
ELECTRIC LINEAR ACTUATORS type ESL-10-



- for heat engineering and air conditioning
- requirements acc. to standard PN-92/M-42011

THE ELECTRIC LINEAR ACTUATORS TYPE ESL-10- (CONSTANT-SPEED) ARE DESIGNED FOR DRIVING OF CONTROL CLOSING COMPONENTS AND OTHER DEVICES IN CONTROL SYSTEMS IN HEAT ENGINEERING AND AIR CONDITIONING. THEY ARE ADAPTED FOR CONTROL WITH CONTINUOUS SIGNAL.

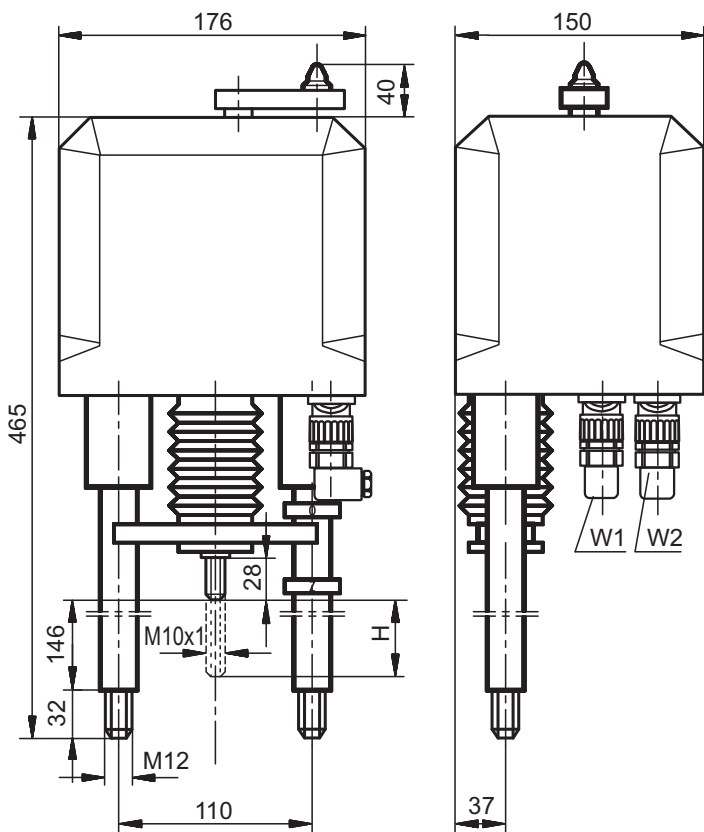
TECHNICAL DATA

| | |
|--|---|
| - power supply | 230V +10%, -15%, f=50Hz |
| - rated force | 2...8kN |
| - linear velocity (positioning speed) | 16; 25 or 40mm/min |
| - stroke / travel | 20; 25 or 40mm |
| - ambient temperature during operation | -25°C...+55°C |
| - protection degree | IP44, acc. to standard PN-EN60259..2002(U) |
| - duty type | S4 - 25%, 1,200 c/h acc. to standard PN-92/M42011 |
| - mass | ~8kg |

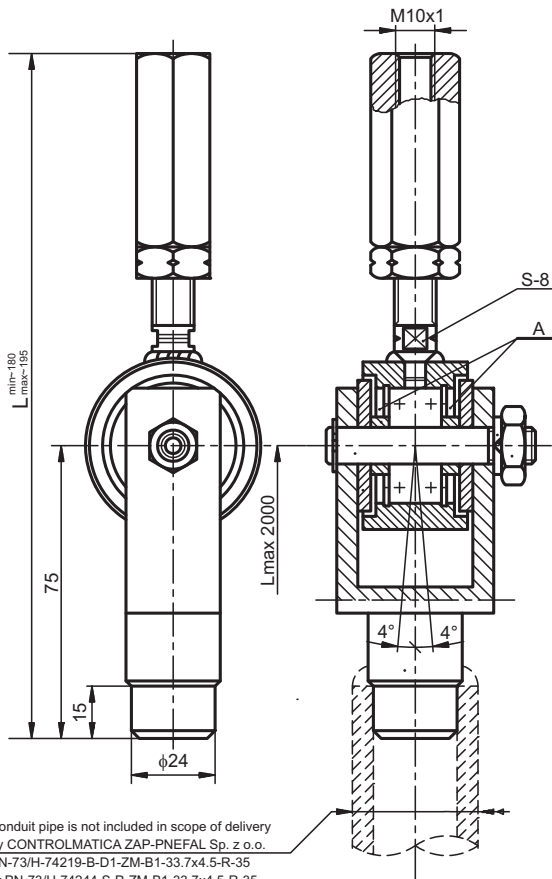
MICROSWITCHES:

| | |
|-----------------------------|---------------------------|
| | Type: 83.132, 83.133 |
| - rated power supply | 250V, 50...60Hz or 30V DC |
| - rated switching current | 2.5A |
| - rated thermal current | 11A |
| - minimal switching voltage | 10V |
| - minimal switching current | 20mA |

DIMENSIONED DRAWING



BALL-AND-SOCKET JOINT FOR ACTUATORS type ESL-10-

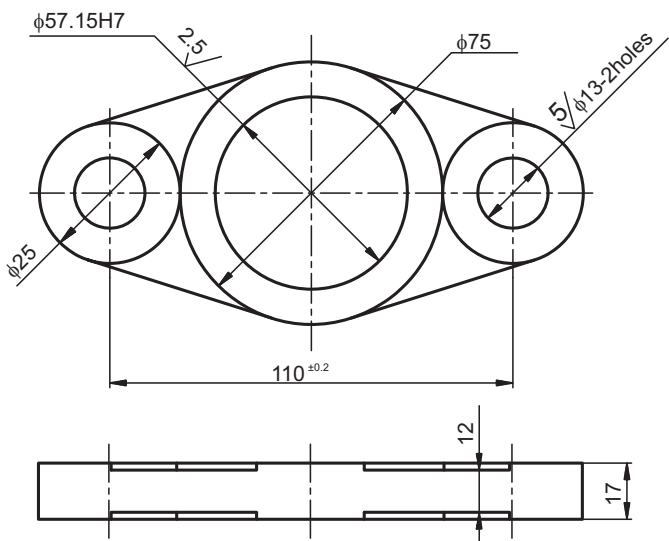


Conduit pipe is not included in scope of delivery by CONTROLMATICA ZAP-PNEFAL Sp. z o.o. PN-73/H-74219-B-D1-ZM-B1-33.7x4.5-R-35 or PN-73/H-74244-S-P-ZM-B1-33.7x4.5-R-35

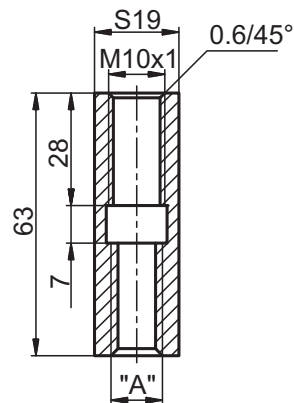
| CODE5 | Drawing no. | Connector |
|-------|-------------|-----------------------|
| -06 | ES3-0815 | Ball-and-socket joint |

CONNECTORS FOR ACTUATORS type ESL-10-

CONNECTING PLATE

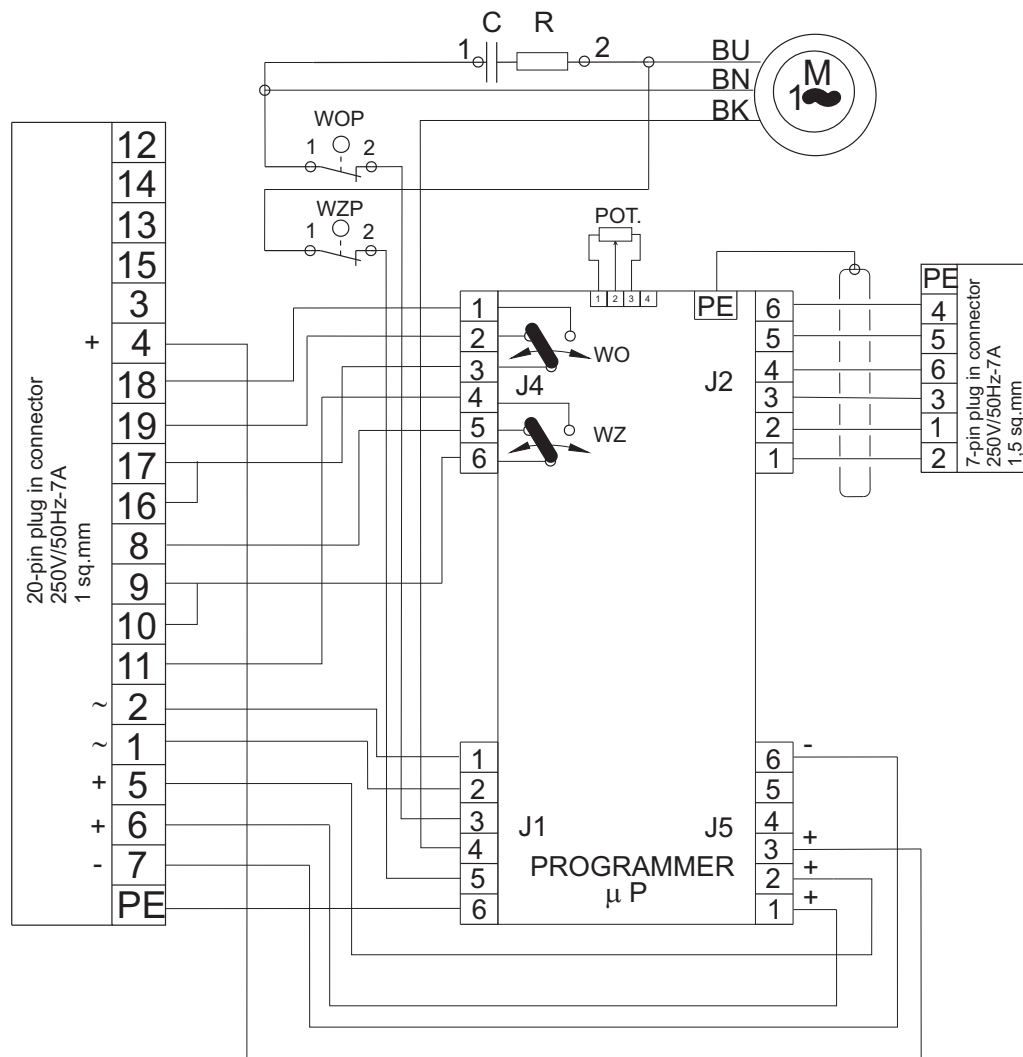


THREADED CONNECTOR



| Drawing no. | CODE5 | Version | "A" mm |
|-------------|-------|---------|---------------|
| ES1-0786-1 | -03 | -1 | 5/16" 24UNF3A |
| ES1-0786-2 | -04 | -2 | 3/8" 24UNF3A |
| ES1-0786-3 | -05 | -3 | 1/2" 20UNF3A |
| ES1-0786-4 | -13 | -4 | M12 x1.25 |

ELECTRIC CIRCUIT DIAGRAM INSIDE CONNECTORS OF ACTUATOR
WITH AMPHENOL CONNECTOR



20-pin plug in connector:

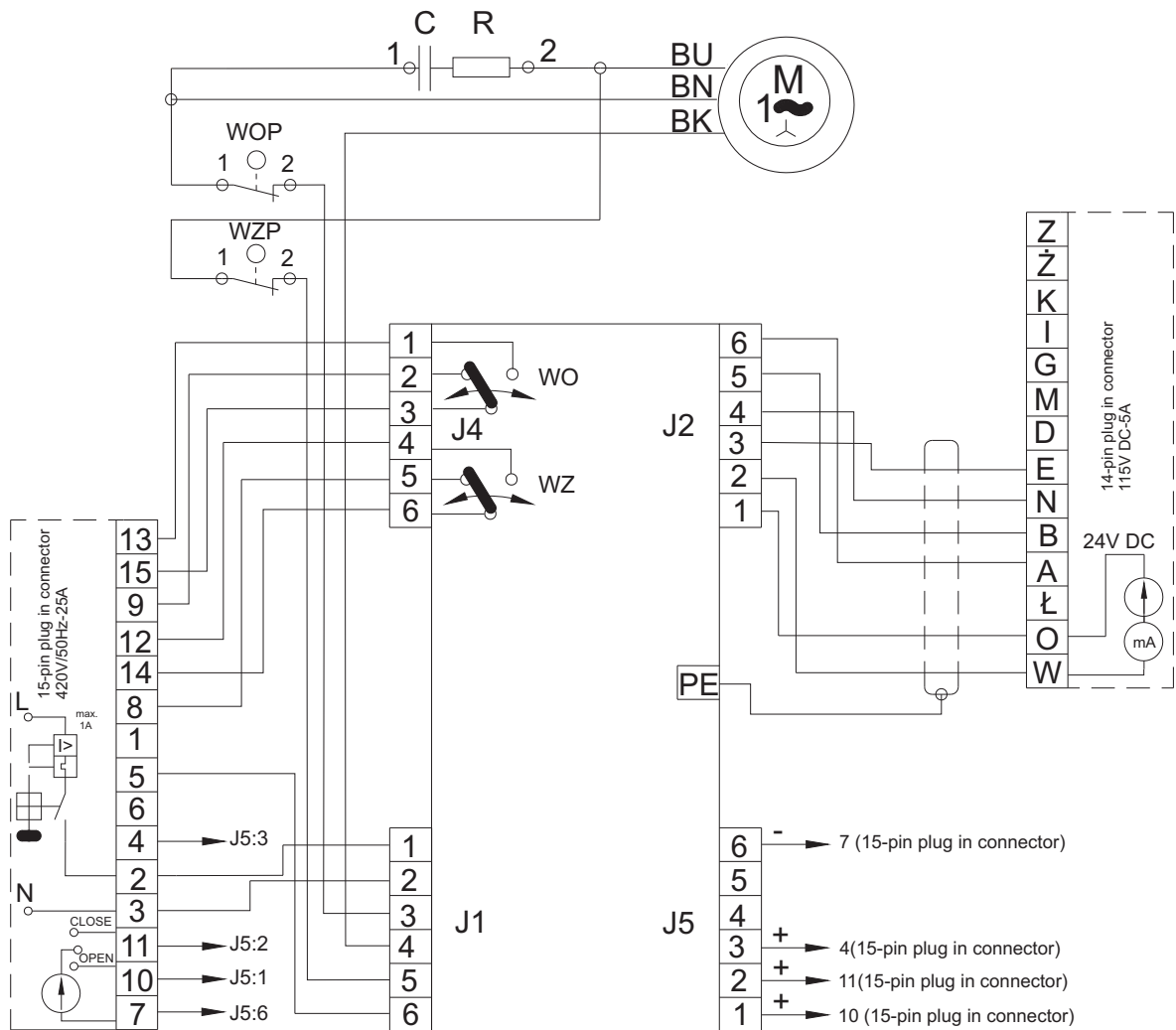
- 1;2 - power supply 230v/50Hz
- PE - protecting terminal
- 4,5,6,7 - 3position input 24VDC
- 8,9,10,11 - signaling from WZ
- 16,17,18,19 - signaling from WO
- 4 - input choice: 3position/analogue

7-pin plug in connector:

- 1,2 - circuit of position indication 4...20mA (need 24VDC power)
- 3,6 - signal from ALARM relay
- 4,5 - analogue input 0(4) ... 20 mA or 0(2) ... 10V

1. Actuator power supply 230V/50Hz is to be connected to the terminals 1 (Neutral) and 2 (Line)
2. Actuator control: continuous current signal should be connected to the terminal 4(+) and 5(-) of 7-pin actuator connector, and then shifting of the actuator output element will be proportional to the signal value. Full opening will occur at the maximum signal, while full closing - at the minimum signal. Three-term signal (24V DC) is to be connected to the terminals: 5 (+, opening), 7(-), 6 (+, closing).
3. Electric shock protection is provided by connecting the protective earthing terminal (PE) to the external electric shock protection system.
4. Continuous current 4...20mA signal, used as position indication of the actuator output element, received from the terminals 1 and 2 of 7-pin actuator connector (the positive pole should be connected to the terminal 2, negative pole to terminal 1).

ELECTRIC CIRCUIT DIAGRAM INSIDE CONNECTORS OF ACTUATOR
WITH MULTI-CONTACT CONNECTOR SSz



15-pin plug in connector:

2;3 - power supply 230v/50Hz
5 - protecting terminal
7,10,11 - 3position input 24VDC
8,12,14 - signaling from WZ
13,15,9 - signaling from WO
4 - input choice: 3position/analogue

14-pin plug in connector:

O,W - circuit of position indication
E, N - readiness signal
A,B - analogue input 0(4) ... 20 mA or 0(2) ... 10V

ORDERING

| TYPE | Force | Linear positioning speed | Travel "H" |
|-----------|-------|--------------------------|------------|
| ESL-10-00 | 4kN | 25mm/min | 25mm |
| ESL-10-01 | 4kN | 25mm/min | 40mm |
| ESL-10-02 | 2kN | 25mm/min | 25mm |
| ESL-10-03 | 2kN | 40mm/min | 40mm |
| ESL-10-04 | 3.2kN | 40mm/min | 40mm |
| ESL-10-05 | 6.3kN | 16mm/min | 20mm |
| ESL-10-06 | 6.3kN | 16mm/min | 25mm |
| ESL-10-07 | 6.3kN | 16mm/min | 40mm |
| ESL-10-08 | 6.3kN | 25mm/min | 20mm |
| ESL-10-09 | 6.3kN | 25mm/min | 25mm |
| ESL-10-10 | 6.3kN | 25mm/min | 40mm |
| ESL-10-11 | 8kN | 16mm/min | 20mm |
| ESL-10-12 | 8kN | 16mm/min | 25mm |
| ESL-10-13 | 8kN | 16mm/min | 40mm |
| ESL-10-14 | 8kN | 25mm/min | 20mm |
| ESL-10-15 | 8kN | 25mm/min | 25mm |
| ESL-10-16 | 8kN | 25mm/min | 40mm |

Meaning of symbols ESL-10-00-00-01-2-1-09-1:

ESL-10-00 - small-size electric linear actuator of rated force F=4kN, travel h=25mm, linear positioning speed V=25mm/min
-00 - standard version
-01 - version for moderate climate
-2 - with microprocessor control, with analogue control signal 0(4)...20mA or 3position 24V and position indicator signal 4...20mA
-1 - single travel switches
-09 - with connector: plate and threaded connector
-1 - with Amphenol connector

| | |
|-------|------------------|
| CODE1 | PROTECTION TYPE |
| - 00 | standard version |

| | |
|-------|---|
| CODE2 | CLIMATIC VERSION |
| -01 | version N/2 acc. to PN-68/H-04650 (for moderate climate zone, outdoor under roof operation on land) |

| | |
|-------|--|
| CODE3 | EQUIPMENT |
| -1 | with microprocessor control, with analogue control signal 0(2)...10V or 3position 24V and position indicator signal 4...20mA I |
| -2 | with microprocessor control, with analogue control signal 0(4)...20mA or 3position 24V and position indicator signal 4...20mA |

| | |
|-------|------------------------|
| CODE4 | TRAVEL ADJUSTMENT |
| -1 | single travel switches |

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|-------|--|
| CODE5 | CONNECTORS |
| -00 | without connecting elements |
| -02 | connecting plate R 110mm |
| -03 | threaded connector 5/16" - 24UNF3A |
| -04 | threaded connector 3/8" - 24UNF3A |
| -05 | threaded connector 1/2" - 20UNF3A |
| -06 | ball-and-socket joint |
| -07 | plate + threaded connector 5/16" - 24UNF3A |
| -08 | plate + threaded connector 3/8" - 24UNF3A |
| -09 | plate + threaded connector 1/2" - 20UNF3A |
| -10 | plate + threaded connector 5/16" - 24UNF3A + ball-and-socket joint |
| -11 | plate + threaded connector 3/8" - 24UNF3A + ball-and-socket joint |
| -12 | plate + threaded connector 1/2" - 20UNF3A + ball-and-socket joint |
| -13 | M12 x 1.25 connector |
| -14 | M12 x 1.25 connector + connecting plate R 110mm |

| | |
|-------|------------------------------|
| CODE6 | ELECTRIC CONNECTORS |
| -1 | Amphenol connector |
| -2 | Multi-pin connector type SSz |

ESL-10- 00 - 00 - 01 - 2 - 1 - 09 - 1 EXAMPLE OF ACTUATOR TYPE DENOTATION

The right of introducing design changes in the product, without deteriorating of its operation parameters, is reserved.