

## ELECTRIC LINEAR ACTUATORS ESL-07-



- regulation type
- requirements acc. to standard PN-92/M-42011

THE ELECTRIC LINEAR ACTUATORS TYPE ESL-07- (CONSTANT-SPEED) ARE DESIGNED FOR DRIVING OF CONTROL CLOSING COMPONENTS LIKE (VALVES, GATES, GATE -VALVES) AND OTHER DEVICES WHEREIN LARGE FORCES ARE REQUIRED. THEY CAN BE USED AS FINAL CONTROL ELEMENTS IN REGULATING AND CONTROL SYSTEMS OF CONTINUOUS TECHNOLOGICAL PROCESSES.

### TECHNICAL DATA

- power supply	230/400V +10%, -15%, f=50Hz
- rated force	4 or 16 or 25 or 40kN
- linear velocity (positioning speed)	25 or 63 or 100 or 160 or 250mm/min
- travel	25 or 63 or 160mm
- ambient temperature during operation	-25°C...+55°C special version -40°C...+55°C
- protection degree	IP54 acc. to PN-EN60259..2002(U)
- duty type	S4 - 25%, 630 c/h FI acc. to PN-92/M-42011
- lubrication	semi-liquid grease ALVANIA EP (LF) 0, Shell make
- relative humidity	up to 80%
- vibration	10...55Hz, vibration frequency should not exceed 7.1mm/s
- mass	~53kg
- operating position	arbitrary, exception no motor downwards; in case of mounting the actuator in other like vertical position than the vertical one, one should the actuator support on his own

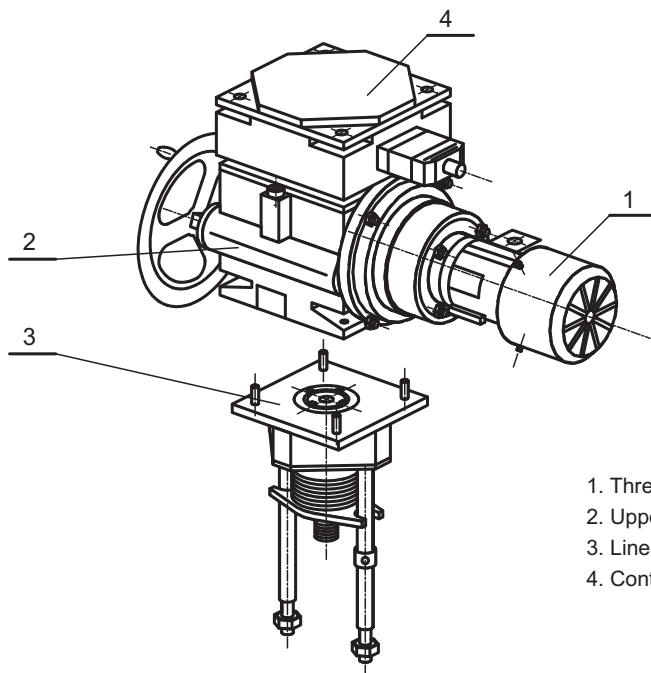
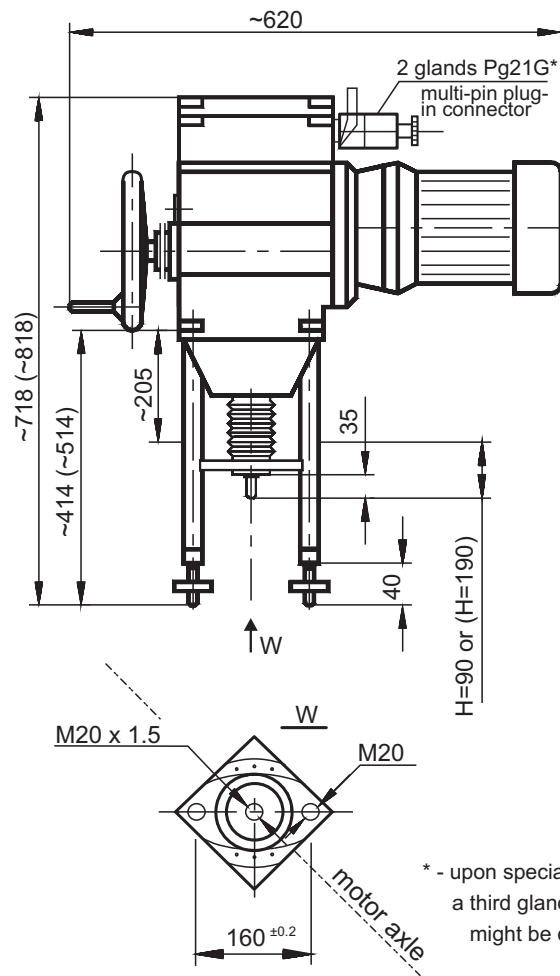
### INDUCTIVE TWO-WIRE SENSOR:

- power supply	12...36V DC (recommended 24V DC)
- output signal	4...20mA
- range setting	50...100%
- maximum load resistance	for supply voltage 24V DC - 500Ω

### MICROSWITCHES:

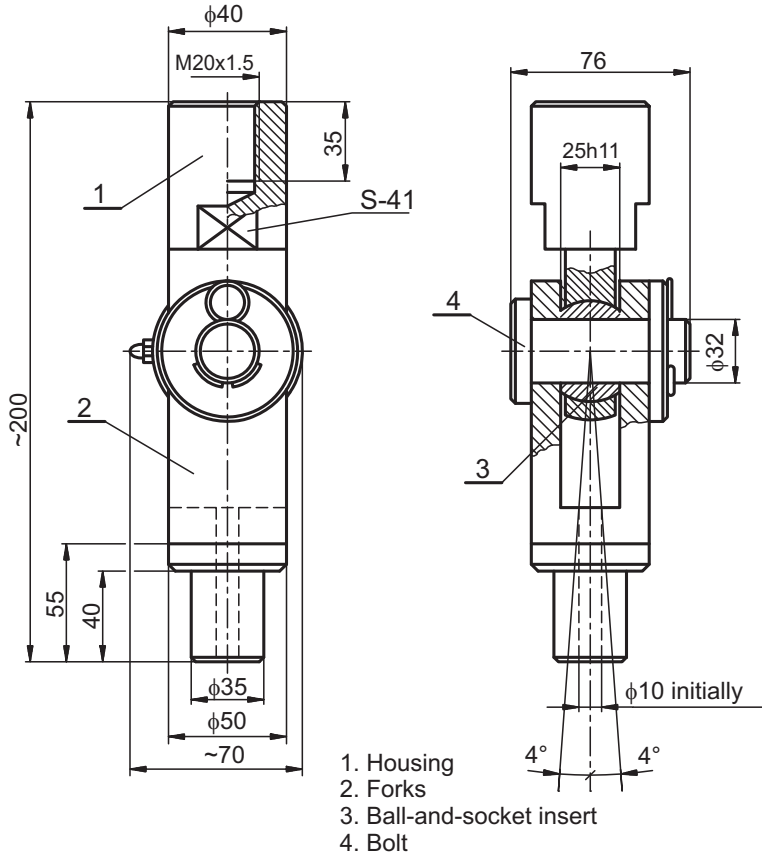
- rated power supply	Type: 83.132, 83.133
- rated switching current	250V, 50...60Hz or 30V DC
- rated thermal current	2.5A
- minimal switching voltage	11A
- minimal switching current	10V
- minimal switching current	20mA

DIMENSIONED-MOUNTING DRAWING



1. Three-phase motor
2. Upper reduction gear
3. Linear adapter
4. Control unit

BALL-AND-SOCKET JOINT FOR ESL-07- ACTUATORS



SHOCK ABSORBER FOR ESL-07-

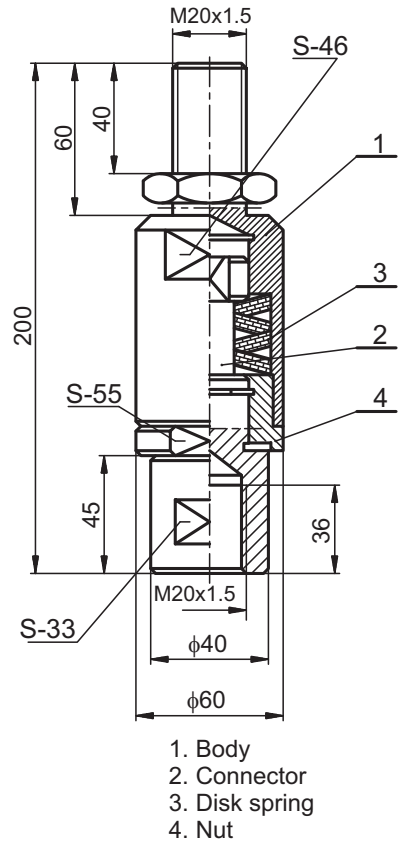
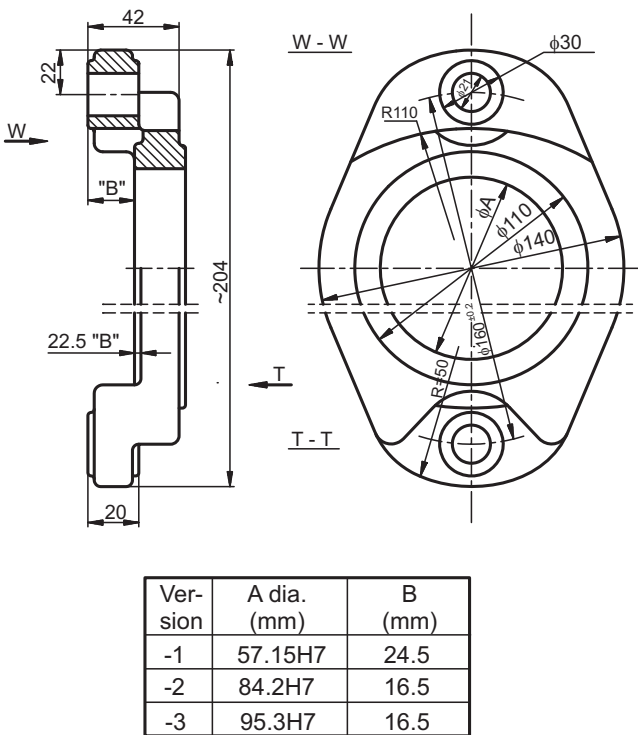
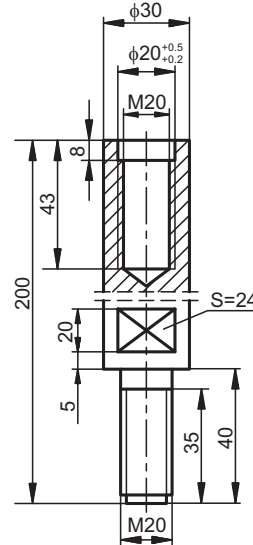


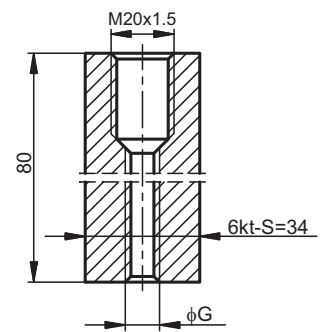
PLATE FOR ACTUATOR ESL-07-



EXTENSION ROD

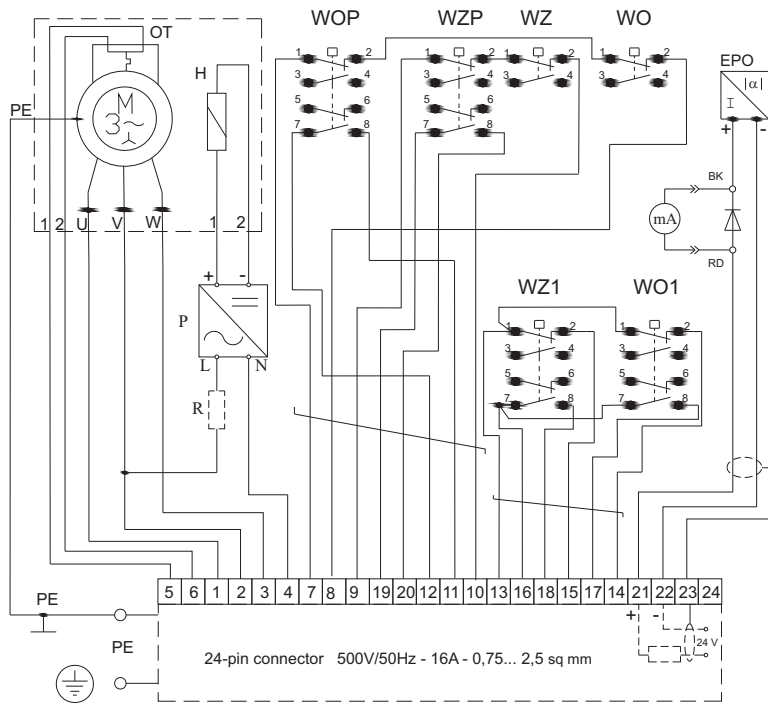


CONNECTOR



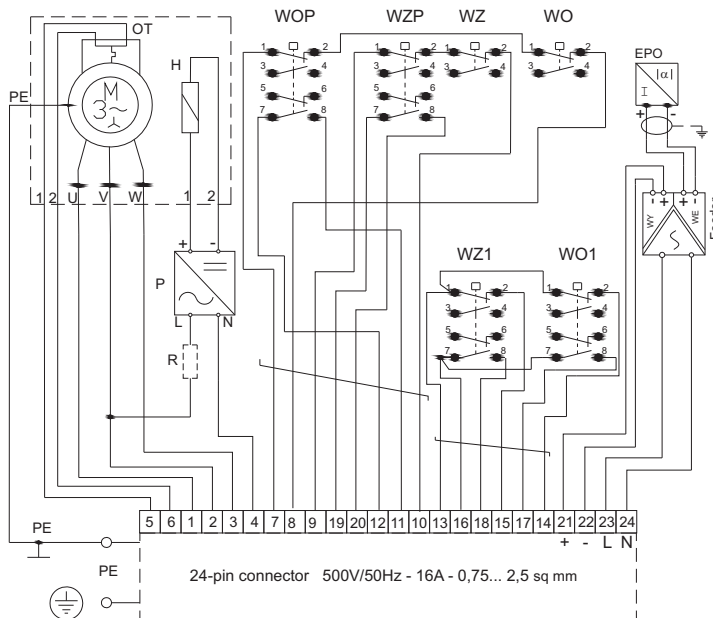
Draw. no.	Ver- sion	G dia. (mm)
ES1-0979-	-1	5/8" - 18UNF3A
	-2	3/4" - 16UNF3A
	-3	1/2" - 20UNF3A
	-4	3/8" - 24UNF3A
	-5	M12 x 1.25
	-6	5/6" - 24UNF3A
	-7	M16 x 1.5
	-8	M18 x 1.5
	-9	M20 x 1.5
	-10	M24 x 1.5

## ELECTRIC CIRCUIT DIAGRAM OF ACTUATOR WITH 2-WIRE ANGULAR ENCODER



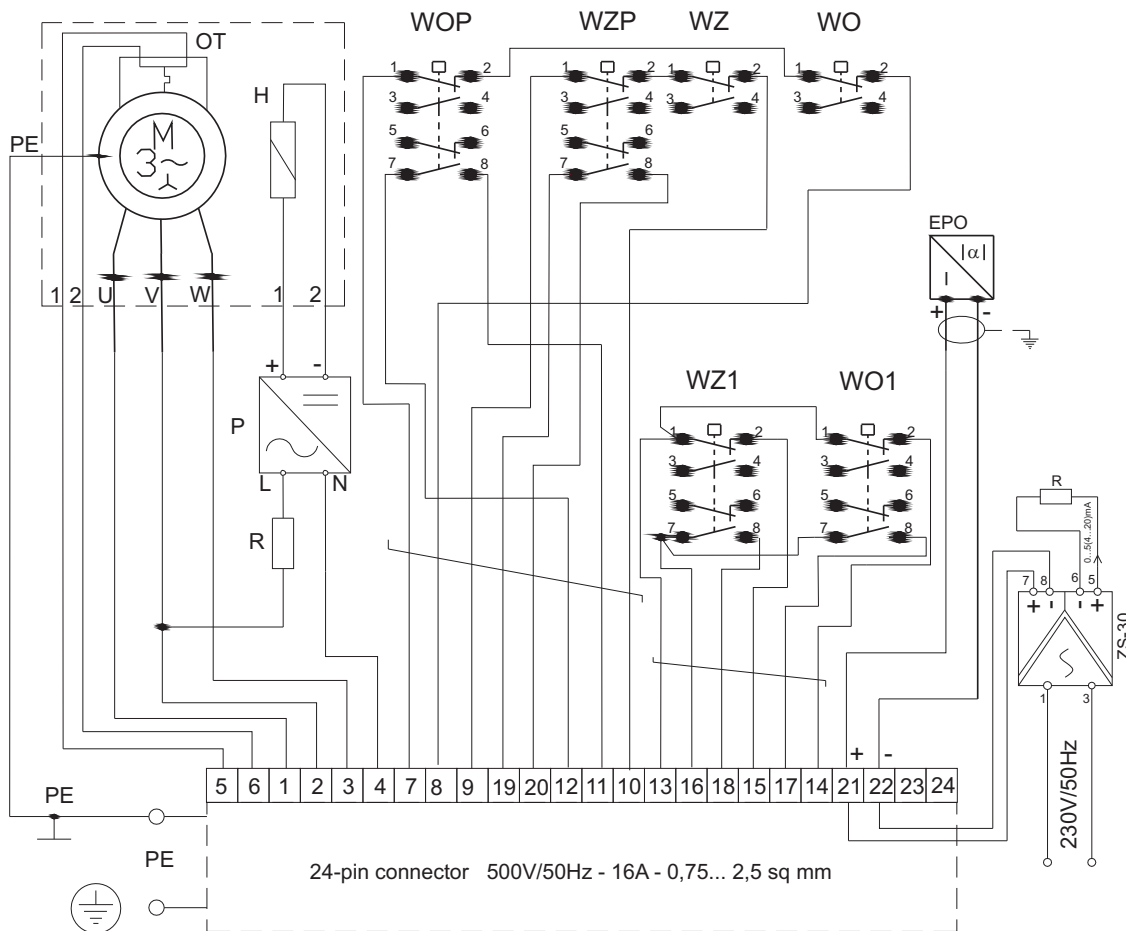
- PE - Protective terminal
- WOP, WZP - Double overload switches
- M - Inductive motor with brake release H and temperature limiter OT
- WO, WZ - Main travel switches
- P - Rectifier PCB (printed circuit board)
- WO1, WZ1 - Additional double travel switches
- R - Additional resistance for version 500V AC
- EPO - Angular encoder

## ELECTRIC CIRCUIT DIAGRAM OF ACTUATOR WITH 4-WIRE ANGULAR ENCODER



- PE - Protective terminal
- WOP, WZP - Double overload switches
- M - Inductive motor with brake release H and temperature limiter OT
- WO, WZ - Main travel switches
- P - Rectifier PCB (printed circuit board)
- WO1, WZ1 - Additional double travel switches
- R - Additional resistance RDC-210-1, 1k $\Omega$  -5% for version 500V AC
- EPO - Angular encoder
- Feeder - 230V AC/24V DC feeder with signal conversion

ELECTRIC CIRCUIT DIAGRAM OF ACTUATOR  
WITH 4-WIRE ANGULAR ENCODER - FEEDER OUTSIDE THE ACTUATOR



- PE - Protective terminal
- WO, WZ - Main travel switches
- M - Inductive motor with brake release H and temperature limiter OT
- WO1, WZ1 -Additional double travel switches
- P - Rectifier PCB (printed circuit board)
- EPO - Angular encoder
- R - Additional resistance RDC-210-1, 1k $\Omega$  -5% for version 500V AC
- ZS-30 - 230V AC/24V DC feeder with signal conversion
- WOP, WZP - Double overload switches
- R - Overload output resistance

## ORDERING METHOD

TYPE	Force	Linear positioning speed	Travel "H"
	kN	mm/min	mm
ESL-07-00	4	25	25
ESL-07-01	4	63	63
ESL-07-02	4	100	160
ESL-07-03	16	25	25
ESL-07-04	16	63	63
ESL-07-05	16	100	160
ESL-07-06	25	25	25
ESL-07-07	25	63	63
ESL-07-08	25	100	160
ESL-07-09	40	63	63
ESL-07-10	40	160	63
ESL-07-11	40	250	160

### Meaning of symbols ESL-07-00-00-01-1-1-01:

- ESL-07-00 - electric linear actuator of rated lifting force  
 F=4kN, travel h=25mm,  
 linear positioning speed V=25 mm/min
- 00 - standard version
  - 01 - climatic version for temperate climate
  - 1 - without transmitter
  - 1 - with single travel switches
  - 01 - without connecting elements

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)
-02	version N/2 acc. to PN-68/H-04650 (outdoor under roof operation on land) to temperature -40°C...+55°C*

CODE3	EQUIPMENT
-1	Without angular encoder
-2	Angular encoder 0...5mA analog potentiometric (4-wire)**
-3	Angular encoder 0...20mA analog potentiometric (4-wire)**
-4	Angular encoder 4...20mA analog potentiometric (4-wire)**
-5	Angular encoder 4...20mA digital potentiometric (2-wire)
-6	Angular encoder 4...20mA digital un-contacting (2-wire)
-7	Angular encoder 4...20mA analog potentiometric (2-wire)

CODE4	TRAVEL ADJUSTMENT
-1	single microswitches
-2	double microswitches (version - recommended)

CODE5	CONNECTORS
-01	without connecting elements
-02	ball-and-socket joint
-03	shock absorber
-04	ball-and-socket joint + shock absorber
-05	plate 57.15 dia. + connector 5/8" - 18UNF3A
-06	plate 84.2 dia. + connector 3/4" - 16UNF3A
-07	plate 84.2 dia. + connector 5/8" - 18UNF3A
-08	plate 57.15 dia. + connector 1/2" - 20UNF3A
-09	shock absorber + extension rod
-10	shock absorber + extension rod + plate 57.15 dia. + connector 5/8" - 18UNF3A
-11	shock absorber + extension rod + plate 84.2 dia. + connector 3/4" - 16UNF3A
-12	shock absorber + extension rod + plate 84.2 dia. + connector 5/8" - 18UNF3A
-13	shock absorber + extension rod + plate 57.15 dia. + connector 1/2" - 20UNF3A
-14	M12 x 1.25 connector
-15	plate 95.3 dia. + connector 3/4" - 16UNF3A
-16	shock absorber + extension rod 2 pcs + plate 95.3 dia. + connector 3/4" - 16UNF3A
-17	shock absorber + extension rod 2 pcs + M12 x 1.25 connector
-18	plate 84.2 dia. + M16 x 1.5 connector
-19	shock absorber + extension rod 2 pcs + plate 84.2 dia + M16 x 1.5 connector
-20	plate 57.15 dia. + M12 x 1.25 connector
-21	plate 57.15 dia. + M16 x 1.5 connector
-22	plate 84.2 dia. + M20 x 1.5 connector
-23	plate 95.3 dia. + M24 x 1.5 connector
-24	shock absorber + extension rod 2 pcs + plate 57.15 dia + M12 x 1.25 connector
-25	shock absorber + extension rod 2 pcs + plate 57.15 dia + M16 x 1.5 connector
-26	shock absorber + extension rod 2 pcs + plate 84.2 dia + M20 x 1.5 connector
-27	shock absorber + extension rod 2 pcs + plate 95.3 dia + M24 x 1.5 connector

**ESL-07-00 - 00 - 01 - 1 - 1 - 01**      **EXAMPLE OF ACTUATOR TYPE DENOTATION**

\* It doesn't apply to the actuator in version with angular encoder (digital un-contacting, 2-wire) (CODE3, version -6)

\*\* 2-wire angular encoder + feeder with signal conversion;

the network feeder separator type ZS-30 or equivalent to this one - for assembly outside the actuator;

the feeder might be assembled inside the actuator on special client's request

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