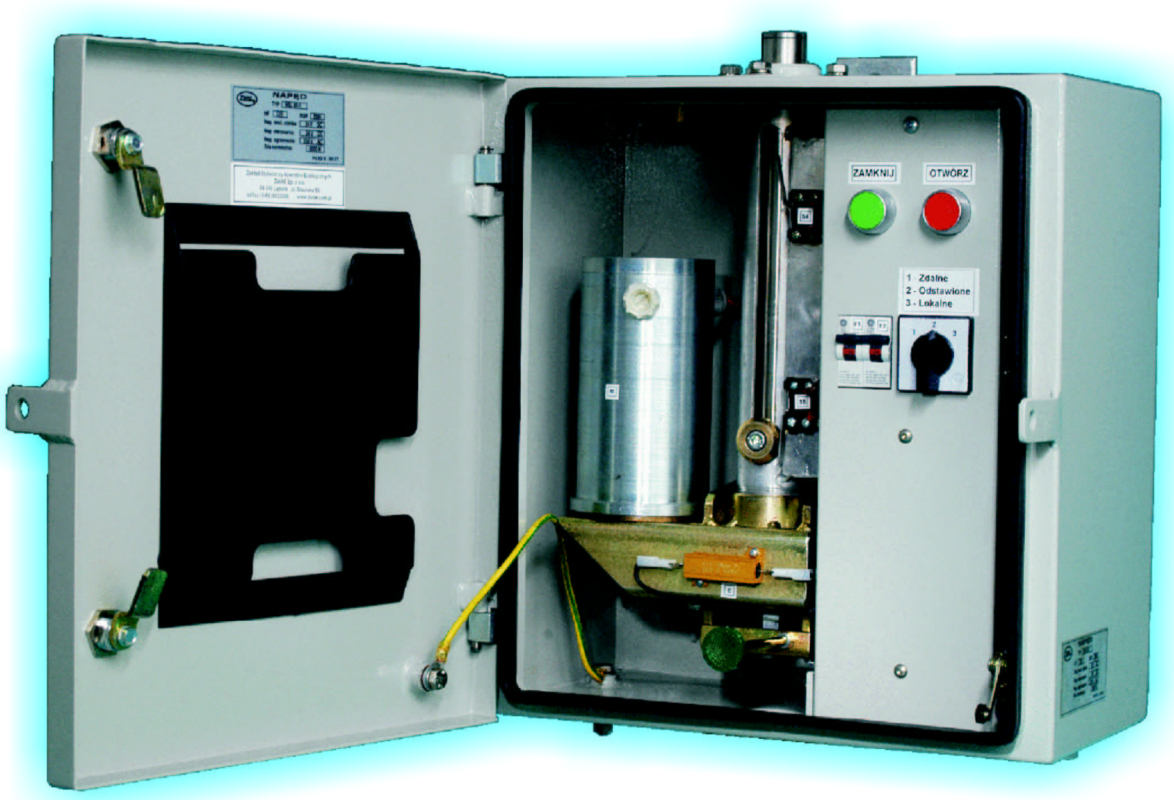
GEVEA



NSL60

Motor operating mechanism

1. General

Motoroperating mechanism NSL60 are designed for operation of medium voltage overhead line – and substation switches. The motoroperating mechanism can be operated locally with push buttons or remotely via remote control systems. The motoroperator can also me manually operated with a crank handle.

The NSL60 motoroperator is suitable for switches with a reciprocal operating movement and with a requirement of a maximum operating force of 6500N.

2. Characteristic features

- •Large maximum operating force, 6,5kN
- •Operational reliability
- •Compact design
- •Easy to maintain and service
- •High reliability and durability

3. Motoroperator type, type designations

NSL60	-1 or -2	/24V or /220VDC
	1 – Small cabinet 2 – Large cabinet	Motor- and auxiliary circuit voltage

Example.

1. Motoroperator NSL60-1/220VDC

Motordrive assembled in small cabinet, motor and auxiliary circuit voltage 220Vdc

2. Motoroperator NSL60-2/24VDC

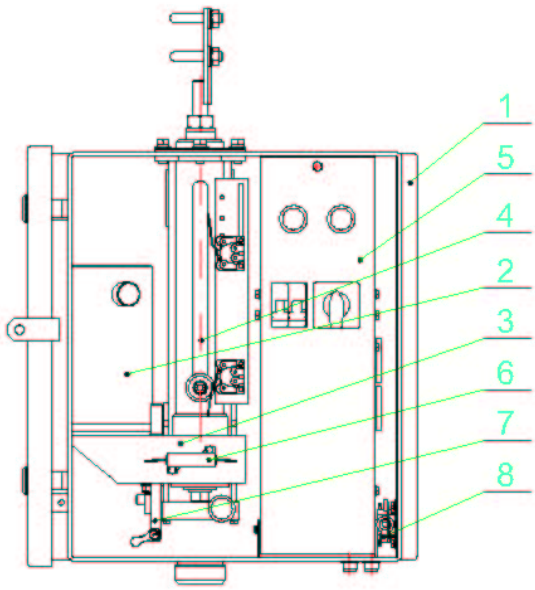
Motordrive assembled in large cabinet, motor and auxiliary circuit voltage 24VDC

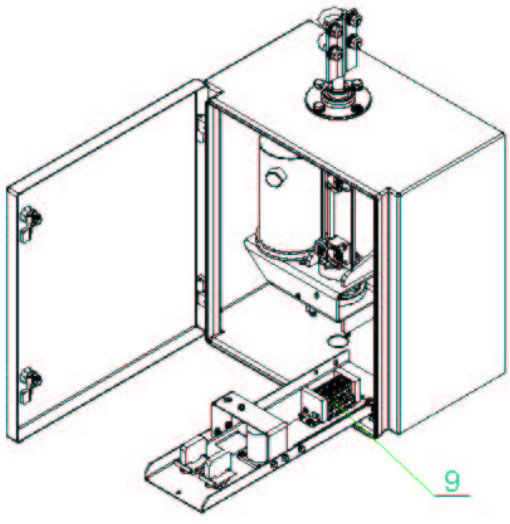
3. Construction

The motoroperating mechanism consists of

- •Gearbox mechanism with motor
- •Limit switches that sets the travel of the mechanism
- •Terminal for connection to motor- and auxiliary circuits
- •Mechanical interlock
- •Auxiliary circuit with contactors and local switches
- •Anti condensation heater with thermostat

[1] Housing
[2] Motor
[3] Gearbox
[4] Tension member
[5] Control panel
[6] Anti condensation heater
[7] Mechanical interlock
[8] Limit switch for door
[9] Connection terminals



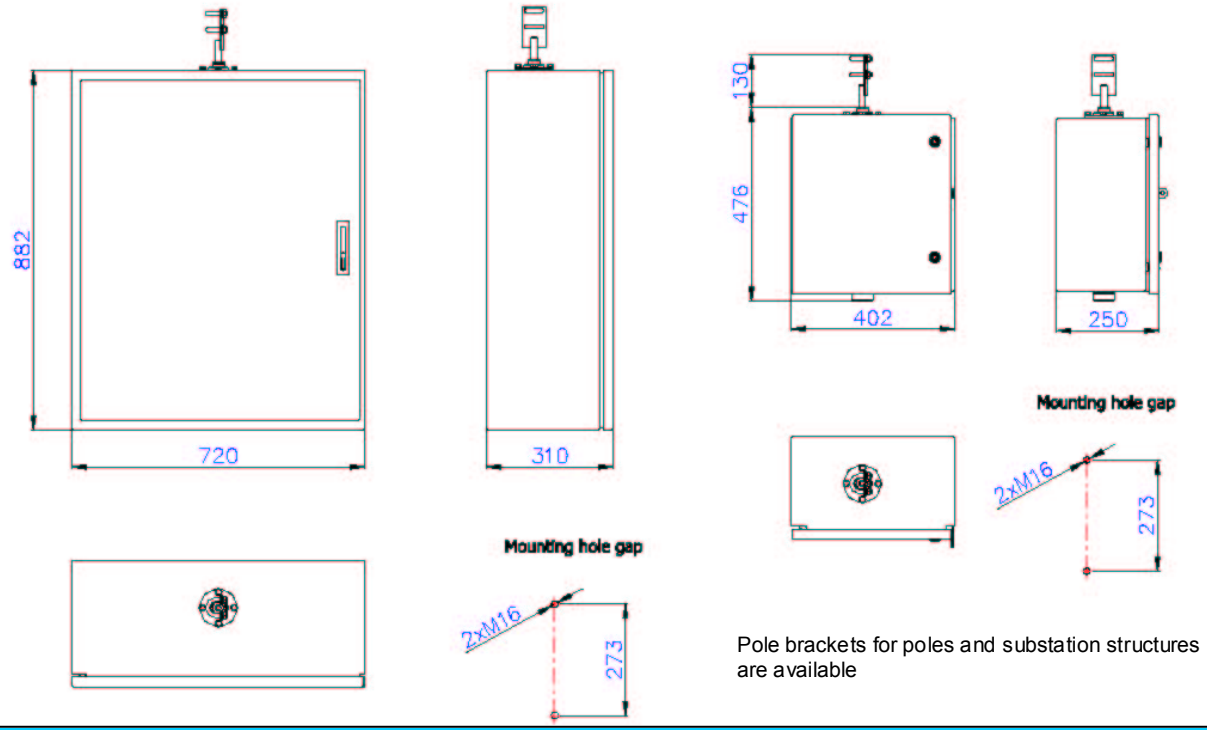


The housing is manufactured in aluminium and painted with an epoxy colour. The door are sealed with a rubber gasket. The cabinet have a encapsulation degree of IP54

5. Technical characteristics

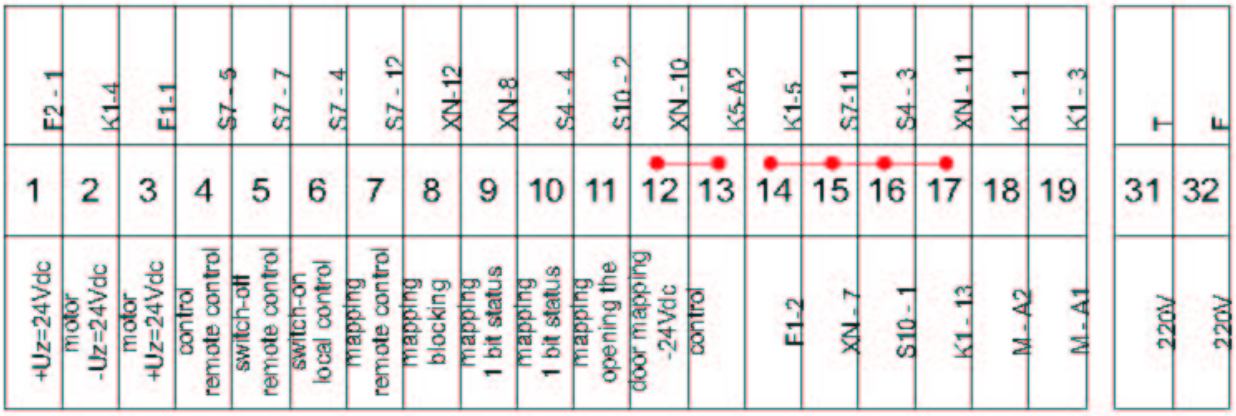
No.	Characteristic	Value		
1	Rated voltage	24VDC	110VDC	220VDC, 230VAC
2	Rated power	300W		
3	Rated current	19A	4A	2,2A
4	Maximum operating force	6,5kN		
5	Operating time	Approx. 4 sec.		
6	Max. connector section	2,5m^2		
7	Weight	Approx. 20kg		
8	Mechanical endurance	2000 operations		

6. Dimensional drawings

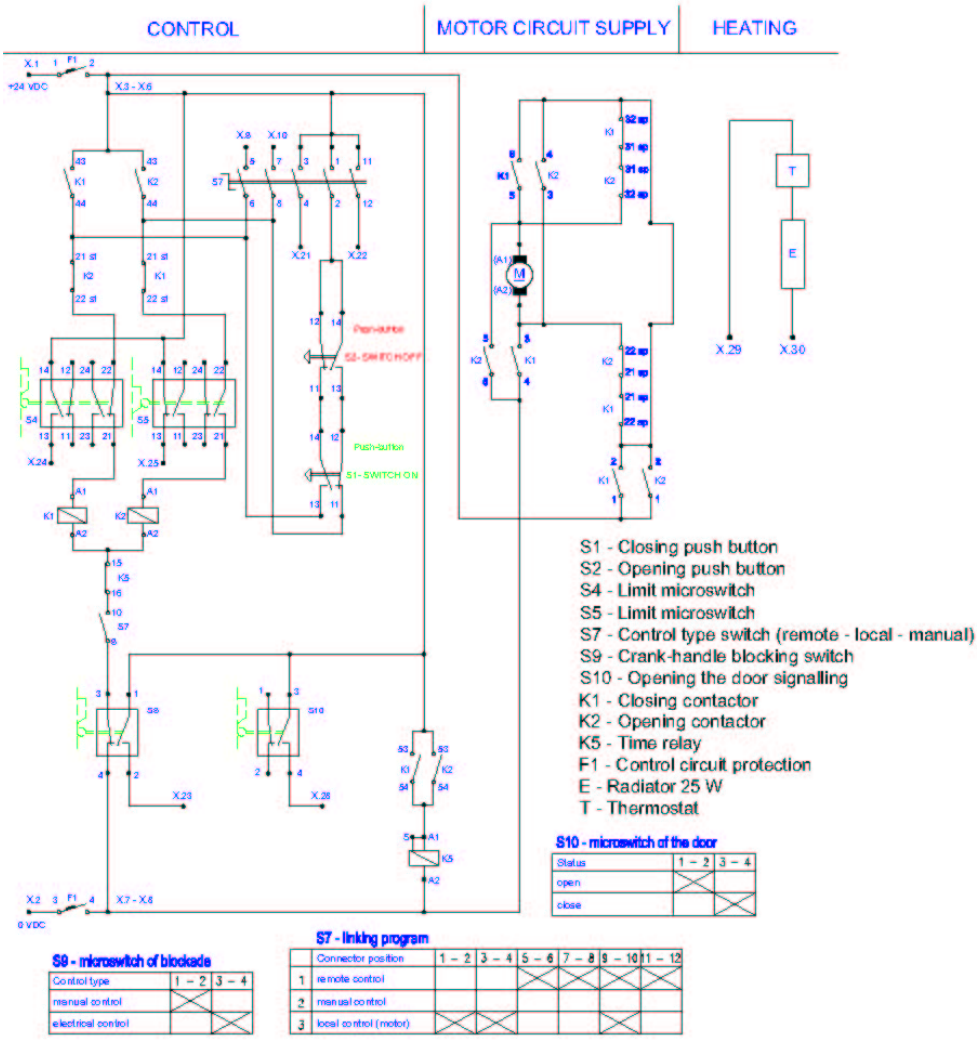


Pole brackets for poles and substation structures are available

7. Connection terminals



8. Circuit diagram



S10 - microswitch of the door

Status	1 – 2	3 – 4
open	X	
close		X

S9 - microswitch of blockade

Control type	1 – 2	3 – 4
manual control	X	
electrical control		X

S7 - linking program

	Connector position	1 – 2	3 – 4	5 – 6	7 – 8	9 – 10	11 – 12
1	remote control			X	X	X	X
2	manual control						
3	local control (motor)	X	X			X	

Note: Status of S4 and S5 microswitch comply with open position of HV switching device

X - Terminal strip

	F1 - 1	F1 - 3	F1 - 2	K1 - 53	S7 - 1	K1 - 43	F1 - 4	K5 - A2	S7 - 5	S7 - 7	S7 - 4	S7 - 12	S9 - 2	S4 - 13	S5 - 13	S10 - 2	T	E
	1	2	3	4	5	6	7	8	9	10	21	22	23	24	25	28	29	30
	+24 VDC supply	0 VDC supply	S4 - 14		S9 - 1	S10 - 1	K1 - 4	S9 - 4	remote control close	remote control open	local control mapping	remote control mapping	interlocking mapping	1bit mapping	1bit mapping	door opening mapping	heating	heating
	red	blue	grey	grey	grey	grey	grey	grey	grey	grey	green	green	green	green	green	green	grey	grey

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