



We connect
with ENERGY

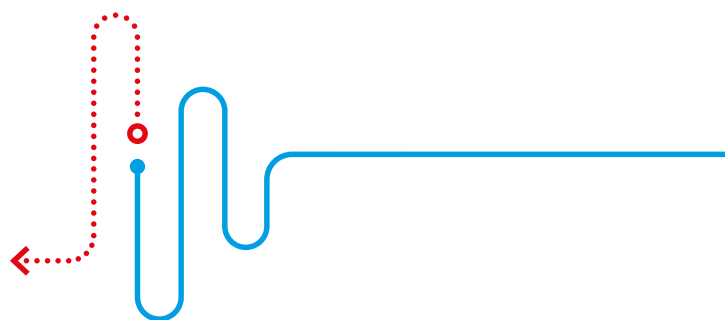
Traction ← ● Switchgear

Edition 1

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Contens



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About us

ZWAE provides HV and MV switchgear and continues tradition of Polish apparatus production in Lębork.

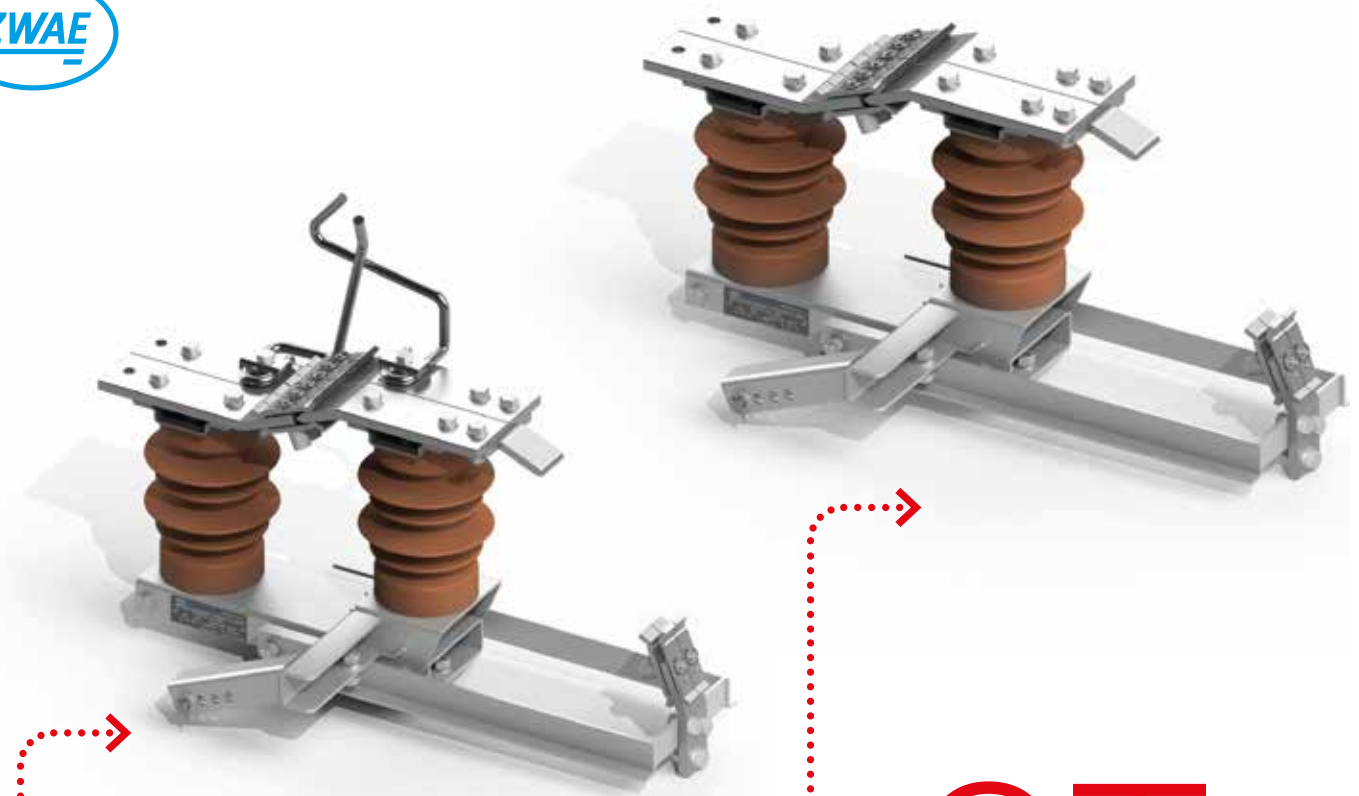
Our offer is aimed both at power engineering and industrial plants using power equipment. Among our customers there are virtually all divisions of power concerns in Poland and many industrial plants. Our apparatus is also sold to companies from other countries.

The advantage of our company is experienced and highly qualified personnel who are able to meet the challenges of modern power engineering. Our products have owned all of the most important certificates. Besides, our apparatus have gained recognition among many electrical

power engineering companies, both domestic and foreign.

Our goal is to become an important partner for power engineering and industry in the domestic market. We aim to meet expectations of customers, sustaining high quality of offered solutions and prompt completion of works. While designing switchgear, we strive for keeping it compatible in terms of assembly with currently used devices in order to make their exchanging as simple as it is possible.

You are welcome to visit our website where you can find detailed information concerning our company and offered products.



Traction MV disconnecter

OT

RT

**Traction MV switch
disconnecter**

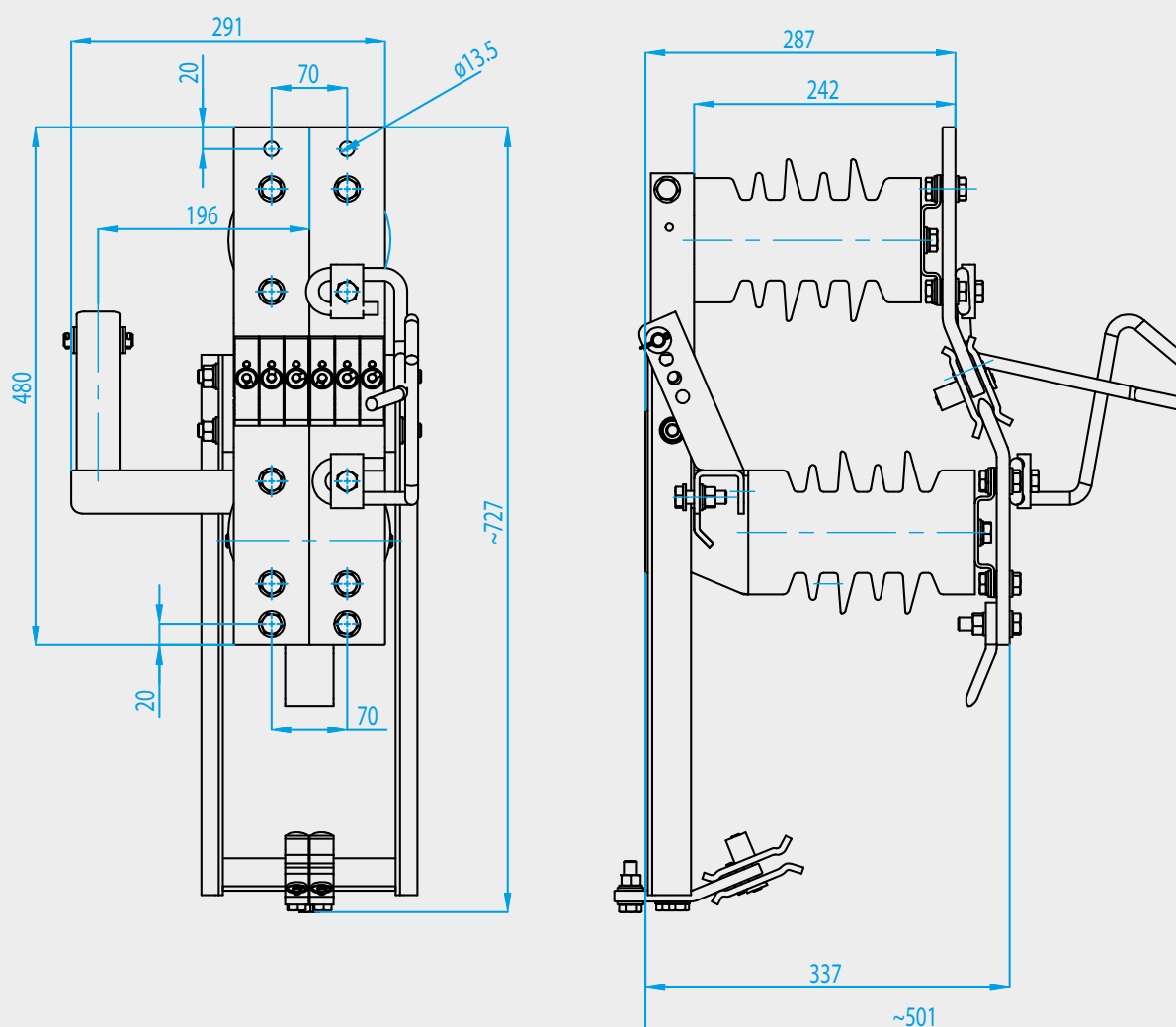
Characteristics

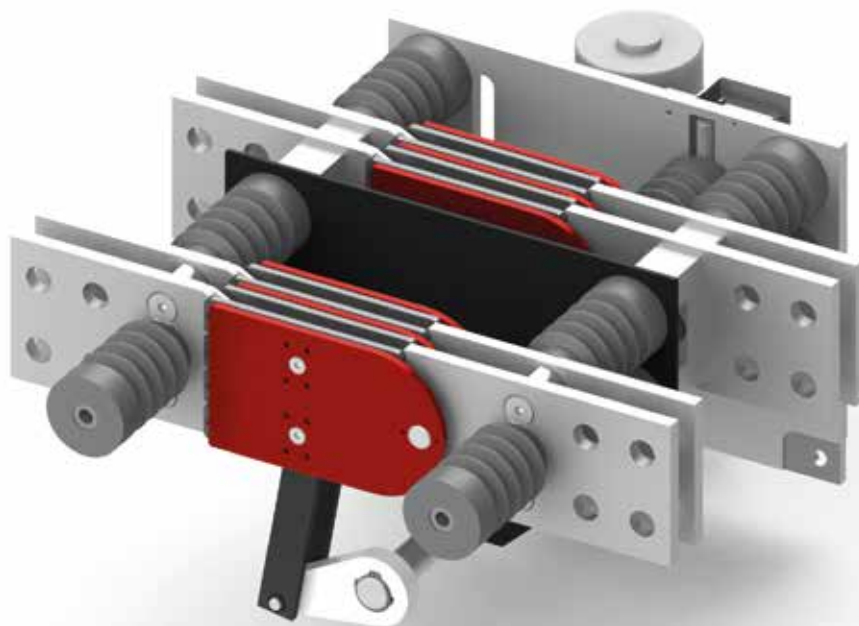
- High performance parameters
- Excellent anti-corrosion protection (hot-dip galvanized steel parts)
- Silvered contacts
- Version with motor operating mechanism NSL60 available with remote control
- Quick assembly, easy regulation
- High durability and reliability
- Simple and safe operating
- Great alternative for already existing solutions

Specification

No.	Parameters	Value
1.	Rated voltage	3,6 [kV]
2.	Rated continuous current	3600 [A]
3.	Rated making /breaking current	4000 [A]
4.	Short-circuit current	50 [kA]
5.	Short-circuit duration	0,3 [s]
6.	Durability of arching contacts	Min. 14 disconnections of the current
7.	Operating temperature	-25°C to +40°C

Dimension drawings





OWT Traction indoor disconnector

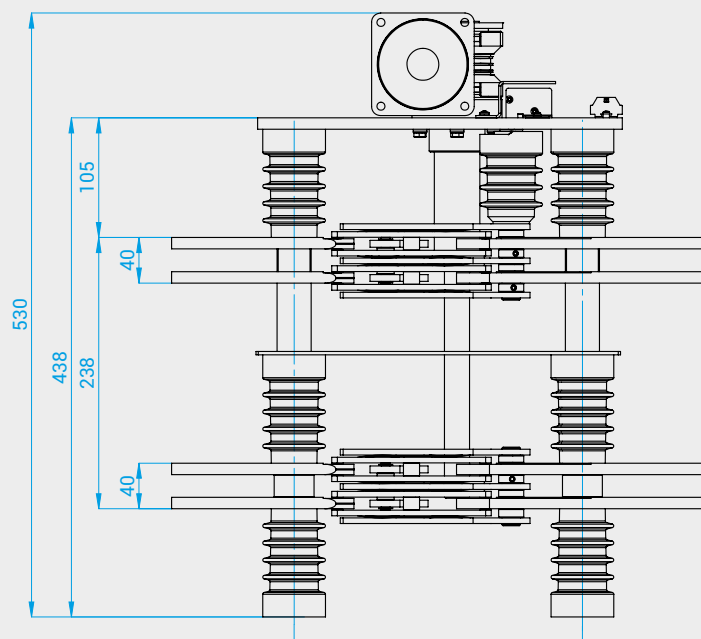
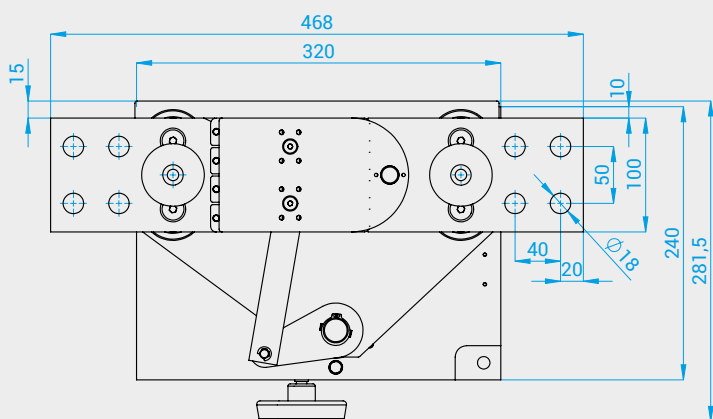
Characteristics

- Modular construction
- Possibility of simple adaptation for customer's needs
- Works together with manual or motor operating mechanism
- Terminals covered with high durability silver
- The insulating break complies with requirements of the OV4 overvoltage category
- Easy to operate
- High reliability

Specification

No.	Parameters	Value					
1.	Rated operating DC voltage	1,8 [kV]			3,6 [kV]		
2.	Test voltage 50Hz 1min: - earth and phase to phase insulation - pole to pole insulation	9,2 [kV] 11 [kV]			18,5 [kV] 22,2 [kV]		
3.	Surge test voltage: - earth and phase to phase insulation - pole to pole insulation	20 [kV] 24 [kV]			40 [kV] 48 [kV]		
4.	Rated continuous current	2500 [A]	4000 [A]	6300 [A]	2500 [A]	4000 [A]	6300 [A]

Dimension drawing





NSL60

Motor operating mechanism

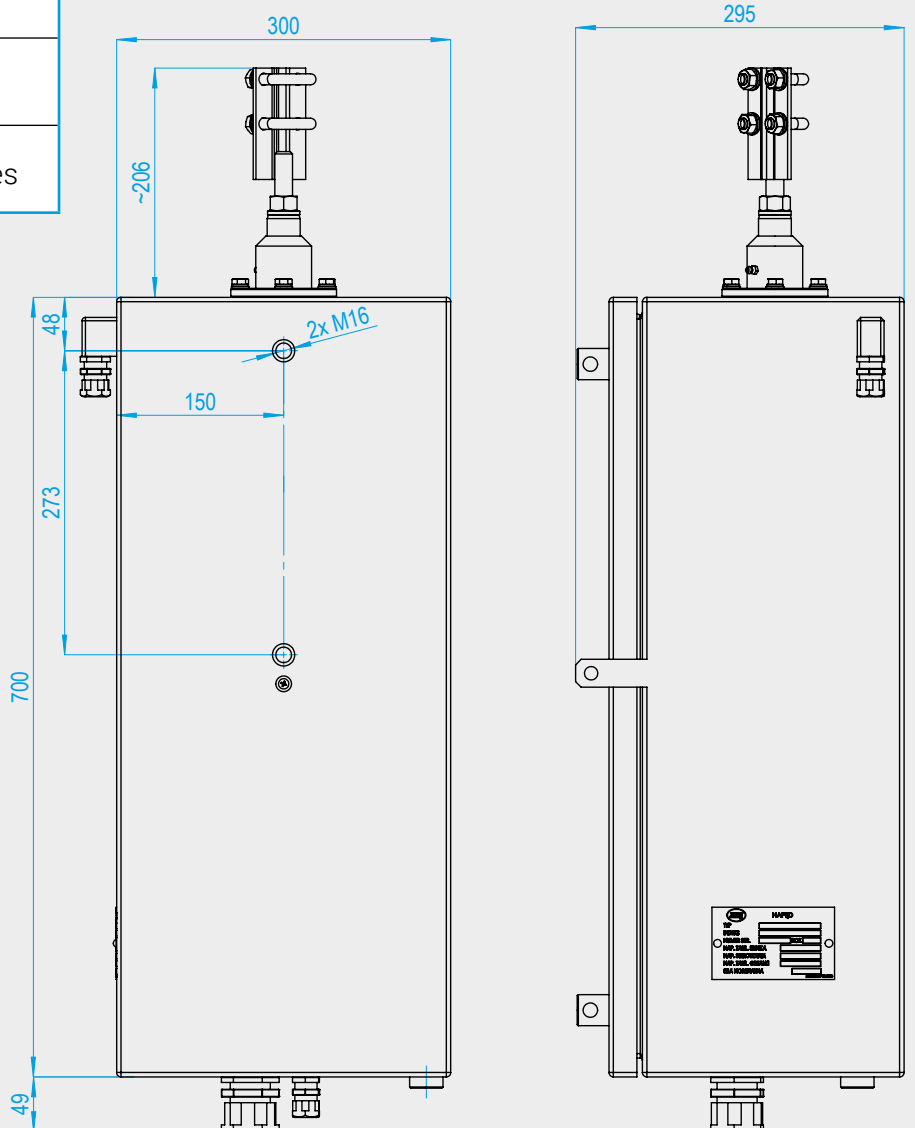
Characteristic

- Narrow, tight-knit construction adapted for the demands of traction grid
- Full fungibility with ONS/WST drives (compatibility of the electric scheme and mounting holes)
- Possibility of completing the drive with additional accessories e.g. auxilliary contact, electromagnetic interlock
- Verified, durable mechanical construction
- Maintenance-free operation
- Reliability in difficult conditions, proven by long-standing usage in Polish energy production sector
- Possibility of cooperation with disconnectors of other producers
- Manual operation available in the occurrence of a voltage loss
- Isolating transformers as an additional protection

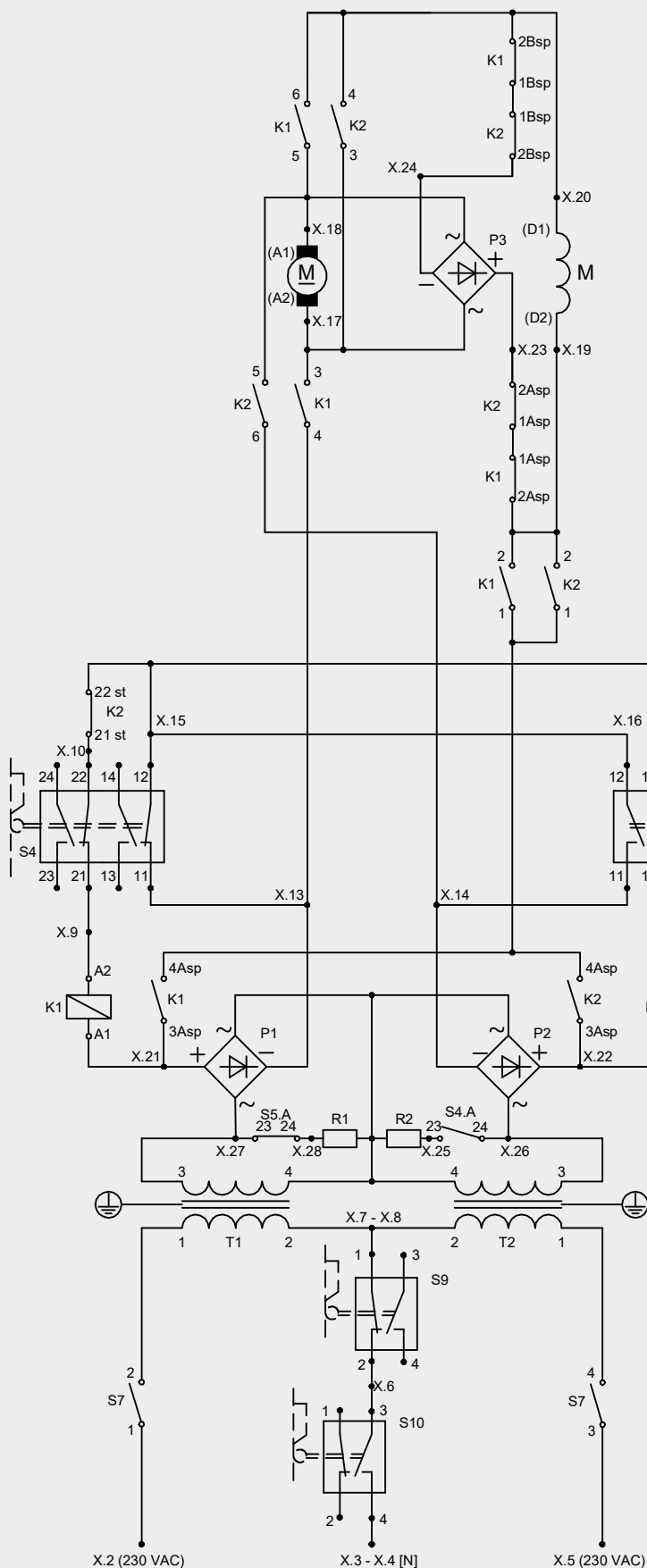
Specification

No.	Parameters	Value
1.	Rated voltage - serial motor	230 [VAC]
	- contactor coil	220 [VDC] 230 [VAC] 110 [VDC] 110 [VAC]
	- heater	230 [VAC] 220 [VDC]
	- electromagnetic interlock	220 [VDC] 110 [VDC]
2.	Rated power - serial motor	300 [W]
	- contactor coil	7 [W]
	- heater	25 [W]
3.	Maximum axial force	6.5 [kN]
4.	Max. conductor cross-section for connection of terminal strip	4 mm ²
5.	Protection degree of enclosure	IP 54
6.	Rated mechanical strength	2000 cycles

Dimension drawing

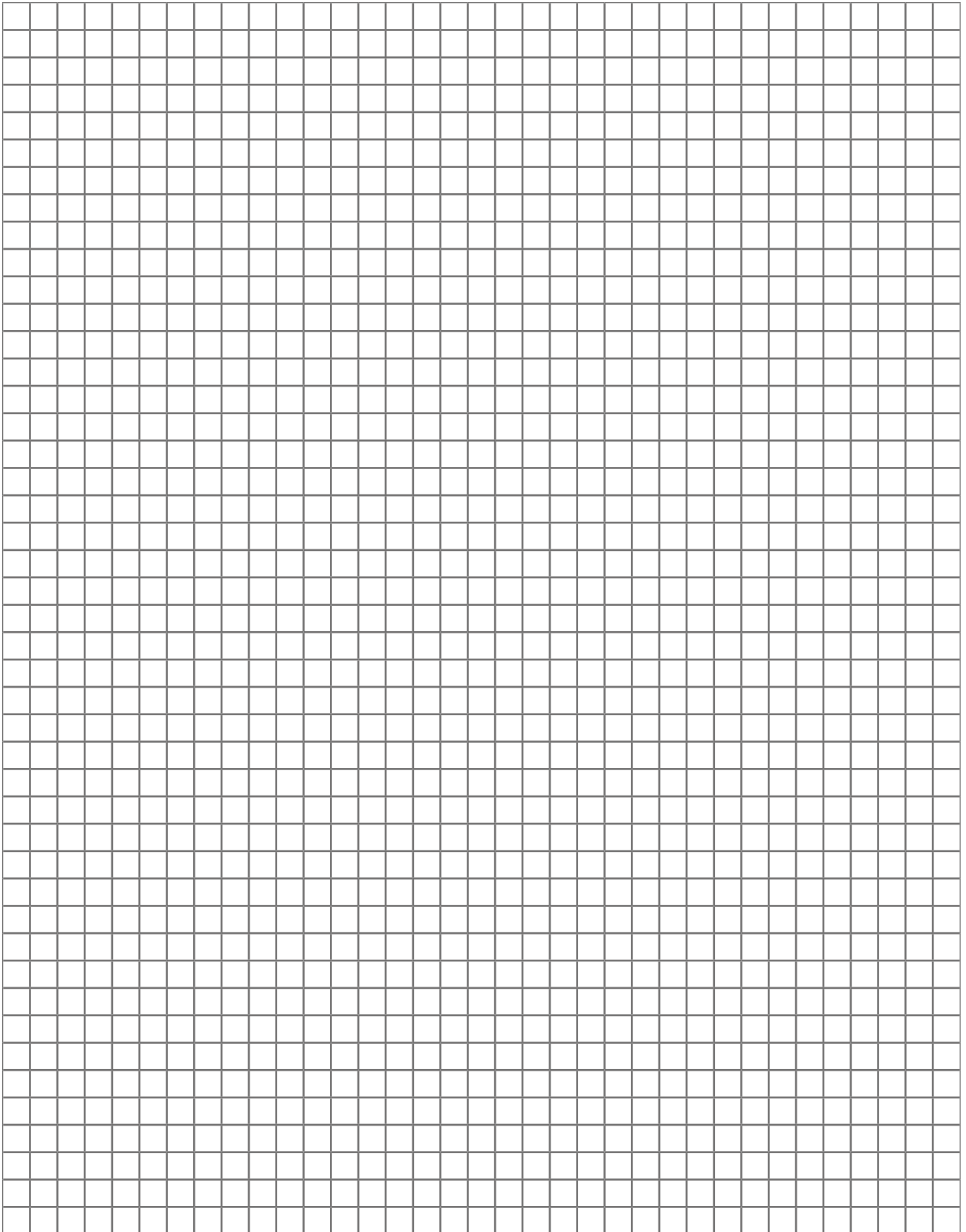


Electric scheme



- S4 – Limit microconnector – upper
- S5 – Limit microconnector – lower
- S7 – Control type connector (remote – manual)
- S9 – Microconnector ‘manual crank’
- S10 – Microconnector ‘open door’
- K1 – Opening contactor
- K2 – Closing contactor
- T1 – Isolating transformer
- T2 – Isolating transformer
- P1 – Diode rectifier
- P2 – Diode rectifier
- P3 – Diode rectifier (breaking)
- M – Serial motor
- R1 – Resistor 100 Ohm, 10W
- R2 – Resistor 100 Ohm, 10W

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