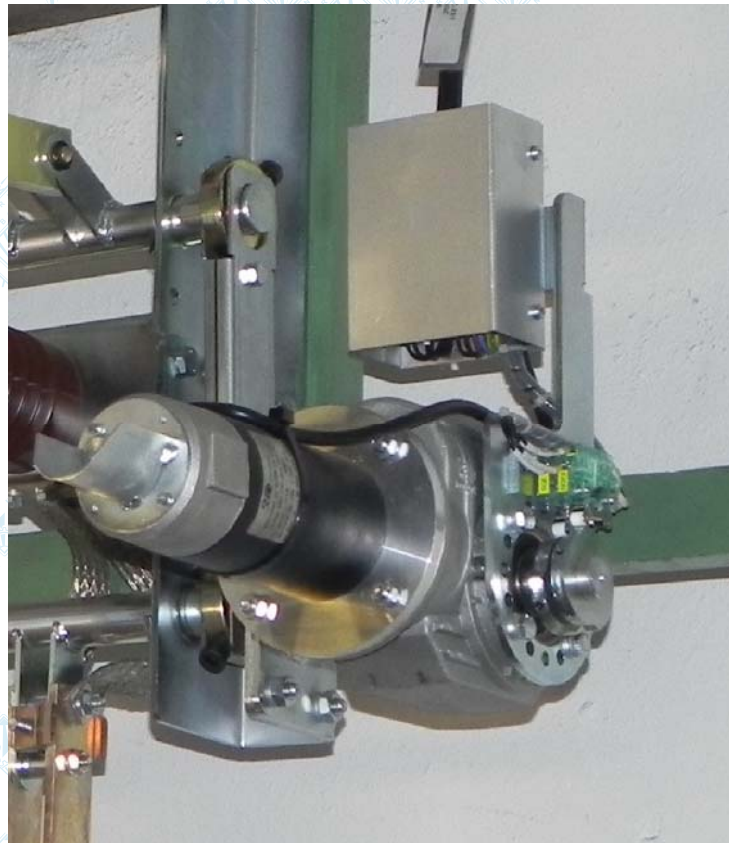


Motor operated drives NM10

for indoor switching devices
for assembly on the switching device's shaft



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ISO 9001
ISO 14001
BUREAU VERITAS
Certification



Motor operated drives NM10 for indoor switching devices

Motor operated drives NM10 are used for the remote control of indoor switching devices and are mounted directly to the switching device's shaft.

The drives are noted for their simple mounting and adjustment, as well as their compact structure with a little demand on installation space. The NM10 motor drives may optionally be mounted on right hand or left-hand side of the switching device with the possibility of rotating the drive around the axis of the device's shaft.

They also can be fixed additionally to already existing switching devices, both from the DRIBO

spol. s r.o. production, but also from other manufacturers.

The drives feature an output torque adequate for the executed operation, combined with high switching speed, and suitable for various supply voltages. The NM10 drives do not include any control electronics.

Simple structural design and the usage of component parts verified in the operation process leads to a reliable functioning, without posing demands on maintenance. It also ensures that the switching end positions will be achieved with adequate reliability.

Description of the drive mechanisms and their functioning

A large margin in the output force of the motor drive is a guarantee for its reliable and defect-free operation, even under difficult operating conditions. The period for the transition of the drive from ON into the OFF switching position is approx. 2 seconds. The adjustment of end positions takes place using built-in cams and end switches. The end switches actuate contactors used to supply the electric motor with electric power.

Electrical connection of the NM10 is established using two cables (power and control). Both of these cables are fixed to the input terminal block. The terminal block is arranged in a way to fix the input cables using tie straps. The electrical connection of the drive units is to be carried out in accordance with the wiring diagrams included.

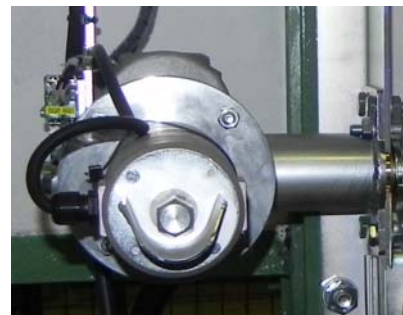
The terminal block clamps are identified in the diagrams with X1. The recommended fuse protection of the drive circuits is shown in a table below.

In case the motor operated drives are used to operate both the switching device and, simultaneously, an earthing switch, provisions have to be taken to ensure electrical interlocking. The built-in mechanical blocking is used only for emergency control. Starting the motor-operated drive into a condition in which the drive is mechanically blocked may cause a damage to the drive.

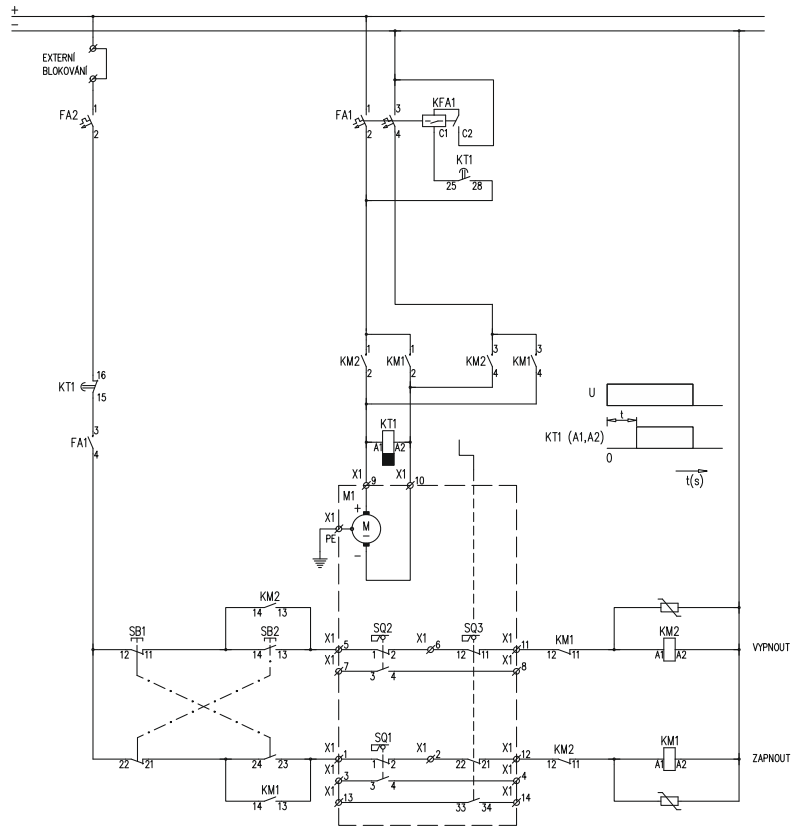
Emergency manual operation

The emergency manual operation of the NM10 is equipped with an output shaft brought out from the gearbox, and intended for to be operated using a handle with square end (insulated rotational rod). The direction of rotation of the emergency control handle is determined by the arrows located on the drive.

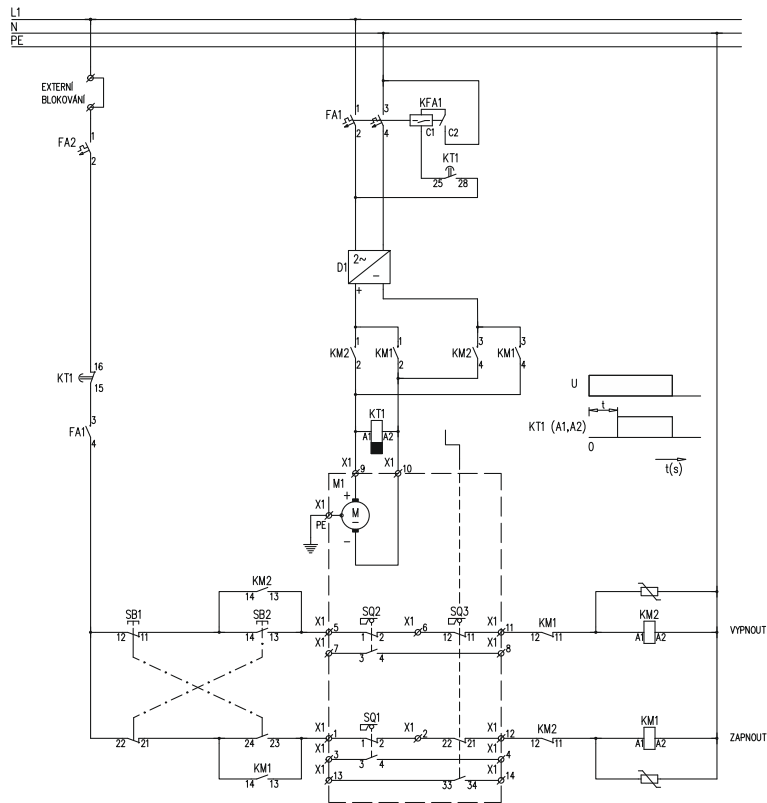
On request, the drive can be equipped with an auxiliary switch that automatically disconnects the drive's electrical circuit. The switch contacts can also be wired to the motor terminal block.



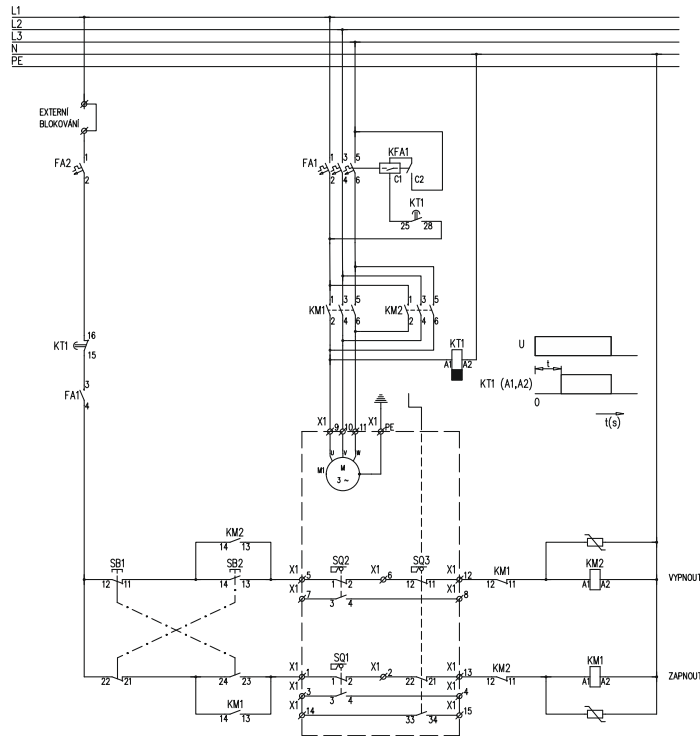
Recommended wiring diagram of the NM10 110V DC a 220 V DC drive



Recommended wiring diagram of the NM10 230 V AC drive (motor 220 V DC + rectifier)



Recommended wiring diagram of the NM10 400 V AC drive



Technical data

Power supply	Rated input power [W]	Rated current [A]	Recommended protection [A]
110 V DC	300	3,4	16
220 V DC	300	2	10
230 / 400 V AC 3f	370	1,06	6

Protection of motor operated drives

NM10 motor operated drives need for their protection circuit breakers with the M characteristics.

When operating the drives with 230V AC (220V DC + rectifier) and 400V AC supply control voltages it is recommended to use three-phase AC motor starters to start the drive. For example:

Type	Manufacturer
GZ1 M	Schneider Electric
GV2-M	Telemecanique
PKZM0	Moeller
140M-C2E	Allen-Bradley
SM1-B	Lovato
SM1E	OEZ Letohrad
MIS	SEZ Krompachy

However, voltages of 110 V DC and 220 DC need to have circuit breakers capable of interrupting DC short-circuit current. For this purpose, the following circuit breakers have been tested:

Type	Manufacturer
140-MN	Allen-Bradley
S 282 UC-K	ABB
RI 5 J2 M	SEZ Krompachy

Each such circuit breaker has to be completed with auxiliary contact that opens the control circuits in case it starts to operate.

When connecting the circuit breaker into power circuit recommendations of the manufacturer have to be adhered to, especially concerning the polarity.

Maintenance

The NM10 motor operated drive mechanisms are maintenance-free. Their moving mechanical parts are greased with stable lubricants to guarantee a reliable operation of the drive during its whole service life.

Specifications are subject to change without notice.

Dust sediments that may arise on the moving parts following a longer period of inactivity are not detrimental to the mechanism, however, it is recommended to wipe these off during regular inspections the drive mechanism is subjected to.

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