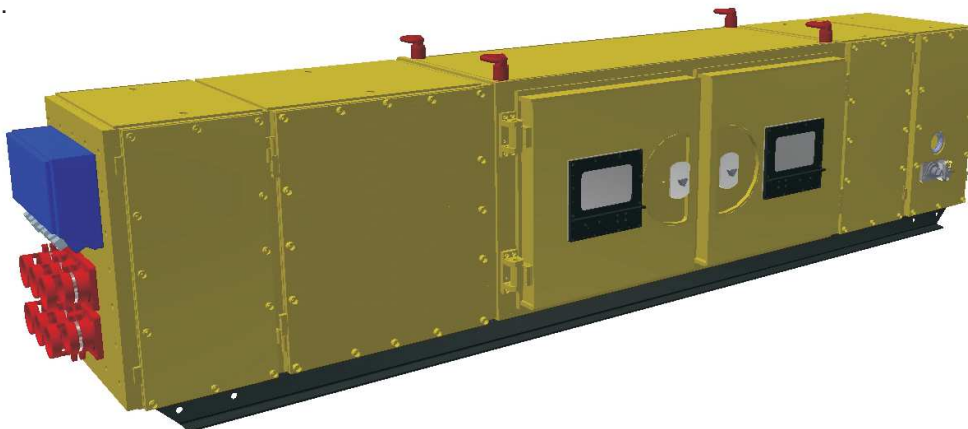


FLAMEPROOF MULTICONTACTOR STATION MCA-W-1/2/0/c/1/A5/M

Flameproof multicontactor station type MCA-W is an energy distribution device designed for underground mining, to switching, protecting and control of electric drives of machines, supplied from three-phase alternating current network with voltage 6000V AC.

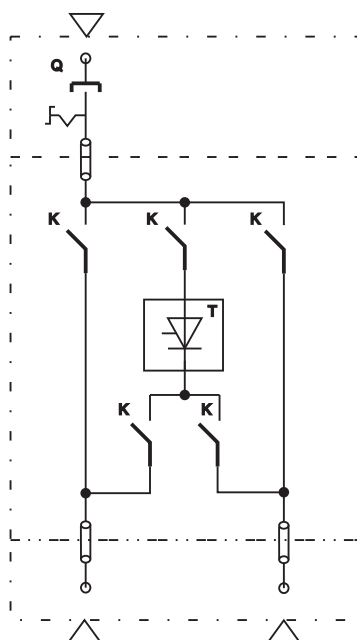
Station type MCA-W-1/2/0/c/1/A5/M is equipped with a thyristor block ensuring a soft start of the powered motors and bypass contactors for a direct start of the powered motor. Used mechanical locks, electronic protection relays and controllers ensure safe control of supplied mining devices. The station is equipped with buttons for parameter adjustment and local control as well as digital data transmission interface for remote control and data transmission with external system.

Flameproof multicontactor station type MCA-W was developed according to 2014/34/UE directive requirements and is intended for operation in underground excavations in potentially explosive atmospheres with methane and/or coal dust explosion hazard.



SINGLE LINE DIAGRAM

Single line diagram of MCA-W-1/2/0/c/1/A5/M station is presented on the figure below.



DETAILED PRODUCT INFORMATION:


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PKiMSA "CARBOAUTOMATYKA" SA
HAS INTRODUCED AND CURRENTLY USES
QUALITY CONTROL SYSTEM AND
SAFETY MANAGEMENT SYSTEM

TECHNICAL DATA

GENERAL PARAMETERS	
Function	Explosionproof medium voltage soft starter 6kV
Intended use	2x 315A mininig drainage pump motor control
Rated voltage	6000V AC (-20%,+20%), 3-phases
Operation frequency	50/60Hz
Number of power lines	1
Number of outputs	2
Rated current of outputs	2x 315A
Working current of softstarter	630A
Number of starts per hour	6
Ambient temperature	-10+40°C
Maximum working enviroment humidity	95%
MECHANICS	
Cooling system	Natural wind cooling
Ingress protection	IP54
Dimensions H x W x D	1000 x 3800 x 950 mm
Weight	~ 4000kg
MARKING	
ATEX certificate	JSHP 20 ATEX 0056X
Marking of explosion proofness	 I M2 Ex db eb [ia] [op is] I Mb

MCA-W-1/2/0/c/1/A5/M station is a medium-voltage soft starter 6kV equipped with 2x 315A outputs for minig drainage pump motor, including: 7,2kV/630A input disconnecter, soft starter 6kV + 20% , contactor bypass 7,2kV, measurement current transformer, 7,2kV electronic input and output voltage sensor, leakage protection. Control signal: remote control signal, monitoring the remote status of intrinsically safety Ex ia I.

SYNCHRONISM OF DEVICE

The main equipment: soft starter power modules, soft starter control modules, control Contactor, Contactor, cabinets, explosion-proof chamber cover ensuring synchronization in installation, correction.

CABINET STRUCTURE

Whole apparatus and devices being part of the flameproof multicontactor station are installed in flame-proof enclosure. Flameproof station enclosure is a single block placed on transport skids. External power supply and output cables are led to the enclosure trough flameproof cable glands. Separate flameproof chambers are electrically connected to each other with flameproof porcelain isolators and suitable cable glands to ensure isolation against moisture.

Main apparatus chamber of the station includes following equipment: 01 softstarter, central control unit, 01 contactor for thyristor module, 02 contactors to select start motor, 02 bypass contactor, measurement current transformer, measurement voltage transformer, control power supply transformer, uninterruptible power supply and control system with starter mode selection and independent protection relays for each output.

MANUFACTURER STANARD

ISO 9001:2015 and ISO 14001: 2015 for the scope of: development, manufacture, repair and sale of electrical equipment with the purpose of operation and use in potentially explosive areas.

Startup feature

Voltage and torque limits, current adjusts automatically.

Range of the initial voltage adjustment at startup

0% ÷ 100% rated voltage

Start-up shock

From 0% - 90% of maximum motor torque, within 2s

LCD display

Display working parameters, error warning, save error history ... combine LEDs showing the operating status of the soft starter, save the nearest problem.

Two boot mode options

+ Stepless soft start mode,

+ Direct start mode can be switched when soft start occurs error (bypass start with contactor) through the switch outside the cabinet.

Two operating control mode options

Operational control options can be selected either locally (on the cabinet) or remotely (control panel).:

- On-site operation: button at cabinet

- Remote operation

Adjust the starting current of the motor

Allow installation to expand 2-5 times the rated current.

Control Isolation

Optical cable communication.

Communication gate

RS232 allows connection to PC RS485 network via Modbus RTU standard.

Starting torque

From 0% -90% motor start torque.

Overload factor (percent of motor rated current)

+ Time delay tripping overload 0÷99s

+ Within 30s 450%

+ Within 10s 600%

General functions:

- + Measure voltage parameters by digital signal
- + Display status and warning information
- + Display the status of all important function during the operation of the load
- + Sending the tripping signals to the backup protective devices

The protection and alert functions:

- + Speed loss protection (0÷10s depending on the setting)
- + Detecting and protecting jam motor shaft (max 1000% rated current, delay time 99s depending on the setting)
- + Stop pump due to overload and short circuit
- + Overcurrent protection warning
- + Stop pump due to overvoltage and low voltage
- + Stop pump due to over frequency and low frequency
- + Overload protection warning
- + Stop pump due to ground fault
- + Stop pump due to failed to start
- + Temperature protection for power set of the soft starter
- + Connecting the temperature signal from motor to over temperature protection (the protection threshold can be set in the controller of soft starter)
- + sensors error signal.

