



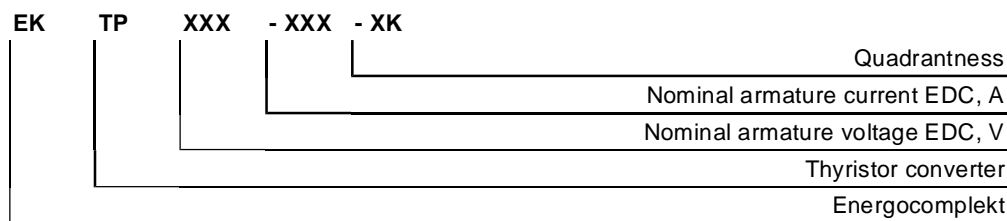
THYRISTOR CONVERTERS EK-TP FOR DC MOTORS

PURPOSE

Thyristor converter (cabinet EK-TP) is intended for regulation of rotation frequency in DC motors with independent excitation. To maintain speed feedback, sinusoidal and digital encoders or analog tachogenerator are used. In case accuracy in the certain limits (low) is necessary, armature EMF could be used for feedback.

Cabinet EK-TP can be used in many industries including the paper, textile, printing industry, processing of plastic, manufacturing of rubber, metal working etc.

STRUCTURE OF LEGEND



Nominally, cabinet EK-TP is made in climatic modification UHL and category of accommodation 4 with the following influencing climatic factors:

- I ambient temperature from 0 °C up to +35 °C (can be increased on inquiry);
- I height above sea level up to 3,000 m;
- I relative humidity 80% at most, at temperature +25 °C.

Concerning conditions of operation regarding mechanical factors, cabinet EK-TP belongs to group of mechanical version M39; thus, acceleration of vibration of a room floor should not be excess 2.5 m/s² at frequencies in the range from 0.5 up to 100 Hz, degree of rigidity – 8. Degree of cabinet protection – IP43 (can be increased) in accordance with GOST 14254-96.

CONTENTS

Cabinet EK-TP represents structurally completed block; its equipment list includes: TP of series TPD32 (SIEI, Italy), input reactor, power terminals and terminals for control signals input (Phoenix Contact, Germany), automatic switches (General Electric, USA) for protection of drive and control logic circuits. Controls and signal systems are mounted at the cabinet door (various variants of elements are possible depending on customer's requirements). Cabinets made by Areta (Italy) or by Rittal (Finland) are used for mounting of all the elements.

MAIN SPECIFICATIONS

- I Power supply voltage / maximal output voltage (V)
 - for double quadrant 380/470, 500/600, 690/810
 - for four quadrant 380/440, 500/540, 690/710
- I Range of nominal output currents: 20 – 3200 A
- I Operation temperature (standard): from +1 °C up to 40 °C
- I Storage temperature: from –20 °C up to 55 °C
- I **Protection from:**
 - I motor overload;
 - I short circuit currents;
 - I inadmissible decrease and increase of input voltage;
 - I overheating of converter's radiator.



CABINET EK-TP PROVIDES:

- | automatic control by frequency of rotation (torque) of the electric motor by feedback from the sensor practically of any technological parameter, by signal from the automatic control system, or by orders of the operator;
- | deenergizing of the electric motor in a cabinet: its long overload on time, short circuit;
- | automatic transition to a feedback by armature EMF in case of signal feedback breakage by speed (only in the constant torque mode).
- | fast reversal rotations of motor;
- | automatic restart of the system after power supply failure (by order);
- | possibility to connect several cabinets on a uniform technological process (cabinets of special embodiment; installation of the industrial controller is required at presence of several feedback signals on technological parameter (in one of the cabinets or in a separate cabinet)).

Fig. 1. Cabinet EK-TP-440-390-4K
