

{gallery alignment=right-float padding=10}oborudovanie/nku_stac_vydv_bl.jpg{/gallery}

LLC CHETA produces low-voltage packaged devices in accordance with GOST R 51321.1-2007, GOST IEC 51439-1-2013 and technical specifications TU 3434-001- 54088882-2003 (for panels with fixed units) and TU 3434-2-54088882-2006 (for panels with withdrawable units). The panels are of modular design, which simplifies their design and maintenance during their operation. Their design and circuit solutions increase their reliability and safety of maintenance, target to apply devices of global and Russian leading companies. During design stage CHETA's specialists can offer special versions of LV packaged devices considering terrain features. Remote input/output systems can be integrated into LV package optionally to receive commands from ACS and transfer information signals via a digital channel. LV packages are manufactured per GOST R 5132.1-2007. They consist of input panels for energy receipt, generally with automatic transfer switch and line panels for energy distribution and control over electric drives of mechanisms and other consumers.

{gallery alignment=right-float padding=10}oborudovanie/nku_stac_vydv_bl1.jpg{/gallery}

LV packages for input are of various design types according to their main and secondary circuits. CHETA manufactures two versions of LV packages with automatic transfer switch:

- SH8301I for current up to 1600A and technical specifications NKU.140.010-10, designed mainly for LV packages with fixed units.
- SH8310 for current up to 4000A and technical specifications NKU.140.112-17 designed mainly for LV packages with withdrawable units.

These devices guarantee comfortable and safe maintenance in spite of relatively small dimensions.

LV packages based on withdrawable units meet up-to-date requirements of operation of handling safety, compactness and reliability of performance. Recommendations for their design can be found in NKU.140.112-13. LV packages data target at an electric-light service of seamless process flow for a long period.

{gallery alignment=right-float padding=10}oborudovanie/nku_stac_vydv_bl2.jpg{/gallery}

Advantages of MCCs with withdrawable units:

1. Panels can be connected directly to power transformers up to 2500kVA - this allows to control electric drives directly from MCC, powered from transformers, which especially important for heavy-duty motor supply.
2. Construction of MCCs allows to replace quickly a working unit for a spare one. It is possible to extract a unit for repairs, make changes in a control circuits or change rated current of units and safely add modules to spare space when the panel under operation.
3. MCC units have a test mode; this permits to check the unit's operability without load energization and check the whole control system of MCC in the test mode.
4. All live parts of a panel are inaccessible for accidental touch. There are two kinds of separation forms available - 3b or 4b.

Panel busbars can be insulated with a two-component epoxy thick-film coating. The bolted connections are insulated with plastic caps. Moreover, all main and distribution busbars can be silver-plated, depending on the operating conditions and technical requirements.

Currently the products equipped with a digital control system are rapidly growing in the total production volume of CHETA LLC. It refers not only to the implementation of load transfer based on the microprocessor equipment, but also to the ability to control the load on the outgoing lines. CHETA has extensive experience in MCCs based on microprocessor relays (MMII manufactured by General Electric, Tesys T manufactured by Schneider Electric and Simocode pro manufactured by Siemens etc.) with the ability to control the units and transmit data to the upper level.

MCCs and distribution boards based on fixed units are designed and manufactured on the equipment of Russian and global leading companies. 1-, 2a- and 3b- forms of functional units separation can be implemented.

Designing recommendations for modular construction of MCCs and distribution boards based on fixed units are contained in NKU.140.010-10. CHETA's fixed-type MCCs and distribution

panels have a wide range of functional designation and circuit design. They are target to apply components of global leading and Russian companies. The decision is up to customer.

{gallery alignment=right-float padding=10}oborudovanie/nku_stac_vydv_bl3.jpg{/gallery}

Mounting terminals with spring contacts are used in secondary circuits of units to increase reliability of a panels, especially when vibrations are possible and eliminate the necessity for contact joints control during operation.

CHETA manufactures modular MCCs and LV distribution boards based on fixed units applying the following standard panels and units (which are listed in NKU.140.010-10):

- input panels with automatic transfer switch of SH8330I series;
- control units of asynchronous motors with a short-circuited rotor of BMM5030 series;
- control units of asynchronous motors with a short-circuited rotor equipped with soft starter of BMP5130 series;
- control units of heaters and light of BMM9300 series;
- units of automatic transfer switch of BMM8100 series;
- units of power distribution of BMM8500 series.

CHETA LLC also manufactures motor control panels based on cabinets with variable frequency drives (VFDs) and soft-start devices for fans of gas and oil air cooling units and various pumping units. It is possible to manufacture versions with an individual VFD for each motor, group VFD, as well as various options for cascade start of several motors.

CHETA has a certificate of standard approval of MCCs and low-voltage distribution boards on fixed and withdrawable units from the Russian Maritime Register of Shipping. Panels manufactured for ships, floating drilling vessels, marine stationary platforms and export supplies (as components) are implemented in accordance with technical specifications TU 27.12.31.000-3-5408882-2018. The design of panels in marine design implies the following features:

- each cabinet is equipped with additional support points with vibration isolators to reduce vibration when pitching;

- external surfaces of the panel (walls, doors) are covered with a special anticorrosion treatment;
- there is an additional handle on each door, serving as an additional support, which can be used by the service personnel during pitching;
- all doors are equipped with special locks that allow to hold the door in the open position;

- all the equipment placed in the panel has a valid certificate from the Russian Maritime register of shipping.

{backbutton}