TTC WÄRTSILÄ

TTC Wärtsilä JOVYREC HC16ACT

PRODUCT LEAFLET

Systems of the type TTC Wärtsilä JOVYREC HC16ACT are utilised to regenerate and to maintain battery cells. The device can be used as battery charger as well as line-commutated inverter for controlled battery discharge. During discharge the device functions as line-commutated inverter feeding the energy of the battery economically back into the public grid. The systems are extraordinarily suitable to maintain lead and nickel-cadmium (NiCad) batteries with large capacitance such as drive batteries used in the military sector.

SINGLE-CELL TREATMENT UNIT

With the TTC Wärtsilä JOVYREC HC16ACT either periodical necessary gas charge of a back-up battery or formatting of cell elements of a drive battery can be performed. Here the necessary discharge of battery cells with constant current occurs automatically. For this purpose all battery specific characteristics can be variably programmed. Up to three single cells can be discharged and charged with the single-cell treatment unit TTC Wärtsilä JOVYREC HC16ACT. Battery cells, which have lost or can no longer reach their capacity, can be regenerated with this device. Via integrated digitised monitoring electronics fully automatic charge and discharge cycles can be programmed and stored. Due to the automatic mode the implementation of these programs can be performed without monitoring operating personnel.

HIGH SAFETY BY PROGRAMMING OF CHARACTERISTCS

The single-cell treatment units of TTC Wärtsilä JOVYREC HC16ACT are CPU-controlled. All for the control and monitoring of the system necessary measurement values are indicated as status and error messages on the operating and display panel. Digitisation allows the values to be set with absolute precision. The systems are equipped with four-line LCD monitor each with 20 characters per line. The programming of the characteristics is therefore considerably simplified. Up to 9 charge and discharge characteristics can be stored and attached.

All systems of the type TTC Wärtsilä JOVYREC HC16ACT are manufactured according to customers' application and specification. Significant feature of the system is a fully controlled Thyristor bridge in B6C circuit with power rege

nerating equipment (standard). A B12C circuit is available as well (optional). Here particular attention is given to the quality of the DC voltage and high control precision. The extreme low residual ripple of the DC voltage and the high control precision ensure a gentle and reactivating charging of the battery according to the manufacturer's specifications.

COMFORTABLE OPERATION

The operating and display panel consists of one LCD monitor, a keyboard necessary for the operating, a transducer, warning and error messages as well as additional light-emitting diodes for fundamental operating states of the system. Via the operating panel the respective necessary charge profiles / discharge profiles can be pre-programmed and launched. In the interest of safety programming is enabled only via key-operated switch. The input and output values for current and voltage as well as the battery cell temperature are permanently indicated on display.

COMPACT DESIGN

In spite of high performance values the systems have extremely small dimensions and fit through a submarine tower hatch

TECHNICAL DATA

Power	12 / 20 / 28 kW

INPUT:

Voltage	3 x 400/230 V ±10 %
Phases	three-phase input
Frequency	50 Hz / 60 Hz ± 5 %
Power factor	0,8 capacitive at 100 % load

OUTPUT:

Voltage	0 - 9 V programmable, further voltages on request
Current	0 - 200 A (programmable)
Tolerance of voltage	±1%
Ripple	max. 5 % rms with connected battery; <2% for B12C
Charging characteristic	Ia, IUa, IUIa-cycles
Discharging characteristic	Ia, Pa, constant
Temperature regulation per cell	5 mV/°C

SETTINGS:

Norm	manufactured according to VDE 0558 DIN ISO 9001
Temperature	+5°C up to +40°C
Humidity	< 95 %, no condensation
Radio interference	N acc VDE 0875
Protection degree	IP 23
Mode of operation	permanent operation
Dimensions	W x H x D: 1200 mm x 2200 mm x 800 mm

COMMUNICATION:

All system data can be read out via RS 232/USB-interface.
Signal informations are given via relay card.

- **SINGLE-CELL TREATMENT**
  for maintenance and regeneration of battery cells
- **ESPECIALLY DESIGNED FOR SUBMARINE BATTERIES**
- **PROGRAMMABLE DISCHARGING / CHARGING CURVES**
- **POWER REGENERATION**
- **REMOTE CONTROL POSSIBLE**
- **CONVENIENT OPERATION**
  via LCD monitor/ operating panel
- **CUSTOMIZED PRODUCTION**

Fig 1 TTC Wärtsilä JOVYREC HC16ACT - Operation panel

Fig. 2 TTC Wärtsilä JOVYREC HC16ACT

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