

TRANSFORMER RECTIFIERS

TR-AC-02: Air-cooled, single or multiple module

Document No.: 02-102-R1

Sheet: 1 of 2

German Cathodic Protection



Type: Single or multiple output module TR-AC-02

Designed for cathodic protection systems in industrial plants such as: power plants; petrochemical plants; pump stations; tank terminals and compressor stations. The number of required modules depends on the cathodic protection system.

Microprocessor controlled units

Further technical details can be found in Chapter 10 Document 10-100-R0

Corrocontrol Output Regulator (CCOR)

The variable output controller units are equipped with a specially designed microprocessor which can be set to operate the transformer rectifiers in any one of the following three automatic output control modes:

- **Constant voltage mode**
automatically maintains **DC output voltage** at a preset level. Level can be continuously adjusted from any value between zero and maximum rating
- **Constant current mode**
automatically maintains **DC output current** at a preset level. Level can be continuously adjusted from any value between zero and maximum rating
- **Potential control mode**
automatic control to maintain the **structure-to-electrolyte potential** at preset level in response by a signal from a reference electrode

Other features

- operating mode is selectable by four programmed buttons on the front panel
- modern 1 MHz switcher with efficiency up to 90% at 24 V-10 A
- protection against current surges in operation mode
- all data input and measuring values are displayed on a 2-line alphanumeric LCD display
- failure indication by LED
- built-in current interrupter for on/off measurements
- menu settings and readings programmable in different languages
- in case of network power failure, the unit automatically reverts to the last programmed operating mode. All preset values are retained.

The transformer rectifier is mounted on a 19" rack convenient indoor or outdoor installation (depending on type of enclosure).

All transformer rectifier control modules are provided on printed circuit boards.

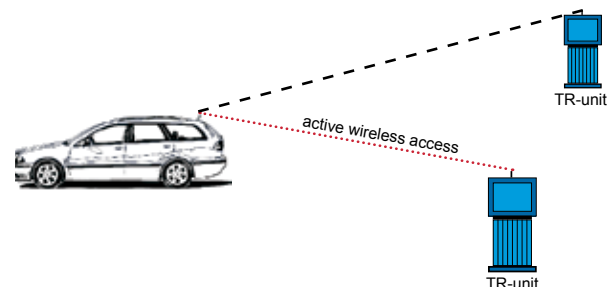


Technical data

AC input	single or three phase 230 V \pm 10 %, 50 or 60 Hz single or three phase 400 V \pm 10 %, 50 or 60 Hz other voltages or frequencies on request
DC output	up to 50 A, up to 50 V, max. 2.5 kW
Control method	Standard: Constant voltage, stepless adjustment
Protection class	depending on enclosure
Temperature	ambient temperature: max 50° C, min. -20° C
Current limit	protection against current overloading
Thermal protection	a thermostat disconnects the output in case of unit overheating

Operating modes

- manual operation on site
- via company network
- via Wlan



TRANSFORMER RECTIFIERS

TR-AC-02: Air-cooled, single or multiple module

Document No.: 02-102-R1

Sheet: 2 of 2

German Cathodic Protection



Type: Multiple output module TR-AC-02 with touchscreen operation and monitoring



Cost-effective operation and monitoring

Range includes 3.5" to 15" displays, keypad or touch screen controls. Panels designed with the IP65 protection class for optimal viewing even in severe climatic conditions. Additional advantages include integrated software functions, such as a reporting system, recipe management, or graph functions.

Example configuration:
PROJECT MOMBASA PORT KENYA
 Multiple output module TR-AC-02 with touchscreen operation and monitoring for 48 protection areas

Output control modes as described on Sheet: 1

Area 01	Area 02	Area 03	Area 04	Area 05	Area 06	Area 07	Area 08
U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage
Area 09	Area 10	Area 11	Area 12	Area 13	Area 14	Area 15	Area 16
U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage
Area 17	Area 18	Area 19	Area 20	Area 21	Area 22	Area 23	Area 24
U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage
Area 25	Area 26	Area 27	Area 28	Area 29	Area 30	Area 31	Area 32
U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage
Area 33	Area 34	Area 35	Area 36	Area 37	Area 38	Area 39	Area 40
U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage
Area 41	Area 42	Area 43	Area 44	Area 45	Area 46	Area 47	Area 48
U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage	U = 0.00 V I = 0 mA M = Voltage

System Service Area

Detail Output No.: 1

GCP German Cathodic Protection
www.gcp.de / kahle@gcp.de

ACTUAL VALUES

Output Voltage: **0.00 V**

Output Current: **0 mA**

Control Mode: **Voltage**

SETTINGS

Set Voltage: **0.00 V**

Set Current: **0 mA**

Set Control Mode: **Voltage**

Exit and save

GCP German Cathodic Protection
www.gcp.de / kahle@gcp.de

Current Interrupter: **ACTIVE**

TAKT ON / 6.635s

TAKT OFF / 3s

CURRENT INTERRUPTER ON / OFF

Detail Output No.: 4

GCP German Cathodic Protection
www.gcp.de / kahle@gcp.de

ACTUAL VALUES

Output Voltage: **0.00 V**

Output Current: **0 mA**

Control Mode: **Voltage**

SETTINGS

Set Voltage: **0.00 V**

Set Current: **0 mA**

Set Control Mode: **Voltage**

Exit and save

Manufacturer : **GCP German Cathodic Protection GmbH ,Co. KG**
 Am Luftschacht 23, 45307 Essen, Germany
 Tel.: +49-201-618187-0, Fax.: +49-201-618187-10, Email: kahle@gcp.de, www.gcp.de

Serial number: 103025-001

IP Address: Controller XXX.XXX.XXX.XXX
 VPN GSM Modem XXX.XXX.XXX.XXX
 Touchscreen XXX.XXX.XXX.XXX

Exit