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

German Cathodic Protection

protected by
GCP

Document No.: 02-102-R1

Sheet: 1 of 2

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-R2
CORROCONTROL-2

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 ± 10 %, 50 or 60 Hz
	single or three phase 400 V ± 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
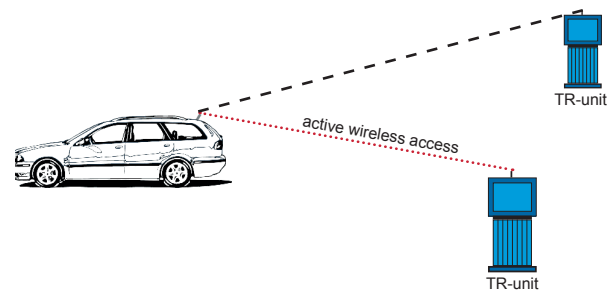
active wireless access

TR-unit

TR-unit

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

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www.gcp.de / kahle@gcp.de

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

System Service Area

Detail Output No.: 4

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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

Output Power in %

Exit and save

Detail Output No.: 1

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ACTUAL VALUES

Output Voltage: 0.00 V

Output Current: 0 mA

Control Mode: Volta

Enter Set Current in "mA"

Min:	0	Max:	300

7	8	9	BACK
4	5	6	CLEAR
1	2	3	ESC
0	+/-	.	OK

SETTINGS

Set Voltage: 0.00 V

Set Current: 0 mA

Set Control Mode: Volta

in %

Exit and save

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Current Interrupter: ACTIVE

TAKT ON   /   6.635s

TAKT OFF   /   3s

CURRENT INTERRUPTER ON / OFF

Manufacturer : **GCP German Cathodic Protection GmbH _Co. KG**
Am Luftschacht 23, 45307 Essen, Germany
Tel.: +49-201-615187-0, Fax.: +49-201-615187-10, 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