BERGHOF
AUTOMATIONSTECHNIK
Unternehmen der ZUNDEL Holding

Intelligent CANbus Servo Controllers RDC1-EC / RD1-EC-R und RDC2

Brief description

The RDC1-EC, RDC1-EC-R and RDC2 modules from the Berghof CANtrol series are intelligent servo controllers. The RDC1-EC with Hall interface and the RDC1-EC-R with resolver interface each control a brushless DC motor with up to 300 Watts.

The RDC2 controls two brushed DC motors up to 300 Watts per motor.

- RDC1-EC / RDC1-EC-R
  1 brushless DC motor with hall and/or resolver interface,
  Output 300 W
- RDC2
  2 brushed DC motors,
  Output 2 x 300 W
- Motor voltage
  up to 75 V DC

The module technology is based on a digital signal processor (DSP) specially designed for driving tasks. With CANbus capability, slimline construction and a snap-on assembly facility, the intelligent CANbus servo controllers are excellently suited to distributed drive concepts.

Functionality

The RDC1-EC, RDC1-EC-R and RDC2 servo controllers are designed for voltages of up to 75 VDC with a peak current of 12 A and a constant current of 6 A.

Messages are reported for target position reached, status modifications, contouring errors, digital I/O status and limit violations. The cyclically transmitted dynamic data concerning position and speed permit user-friendly axis control and optimisation. They make possible on-the-fly switching between different target trajectories and ramps between positioning and speed modes, automatic ramping up/down and/or running reversal, according to target position and ramp.

Features:

- CAN bus interface
- Firmware loadable via CAN or serial interface
- Overtemperature protection
- Watchdog function
- 6 digital inputs
- 2 digital outputs
- 3 analog inputs
- 10 programmable ramps (trapezoidal, triangular, slide, S-curve)
- Programmable failure functions
- Programmable event messages (limit violations, final position reached, change of status, ...)
- Programmable markers (position events, messages, functions, ...)
- Cyclic transmission of axis data (optimisation, performance tests, statistics)

Configuration, parameterisation, operation

Via PC and CANtrol software tools using CAN, SIO or Ethernet (with CEDIO 16/16-0,5).

Current Supply and Connectors

The module's supply voltage is 24 VDC. The motor power supply (<75 VDC) is isolated from the module supply. The I/O connectors are designed for 3 wire front connection. There is a choice of three connector types:

- screw connection
- spring latch
- crimping

LEDs on the front panel provide information on the I/O status and module operating state. I/O channels can be clearly identified using insertable labelling strips.

At a glance - a brief overview

Module data			
Name	RDC1-EC	RDC1-EC-R	RDC2
Article No.	13745	13746	13353
Motor connections	1 brushless DC motor	1 brushless DC motor	2 brushed DC motors
Total motor output	max. 300 W	max. 300 W	max. 2 x 300 W
Bus protocol	CANopen		
Program memory	FLASH on board		
Dimensions, weight, etc.			
LxHxD measurements [mm]	124 x 170 x 85,5 (modular dimensions B 113/118,5)		
Weight	ca. 1000 g		
Working temperature range	5°C bis 40°C; no condensation		
Protective system	IP 20		
Assembly	Mounting rail NS 35/7,5 (EN 50022)		
Voltage, current			
Module supply	24 VDC; approx. 0,5 A		
Motor voltage	< 75 VDC; 6 A		
Electrical isolation	Between CANbus, digital I/O and motor supply		
Digital inputs and outputs			
6x digital IN	24 VDC polarised, limited voltage		
2x digital OUT	24 VDC max. 0,5 A; short-circuit proof, voltage-limited		
Connectors	3-conductor technology; connectors with threaded terminal end, elastic force terminal or crimp terminal Connector plug: 4 x 10 pole		
Operation display components			
4 modul-status LED	Module functions		
8 status LED	Status of I/O channels		
Parameterisation			
Via CANbus	With Windows PC (also serial)		
Configuration	CNW / CPRDC configuration software		
Interfaces			
CANbus	9-pin Min-D (plug/socket)		
Serial	9-pin Min-D (socket) for configuration tools		
E-Bus	for local expansion via CANtrol modules		
Interfaces (2 x 15-pin Min-D (socket))	RDC1-EC encoder/hall interface	RDC1-EC-R resolver interface	RDC2 2 x encoder