

**NEW!**

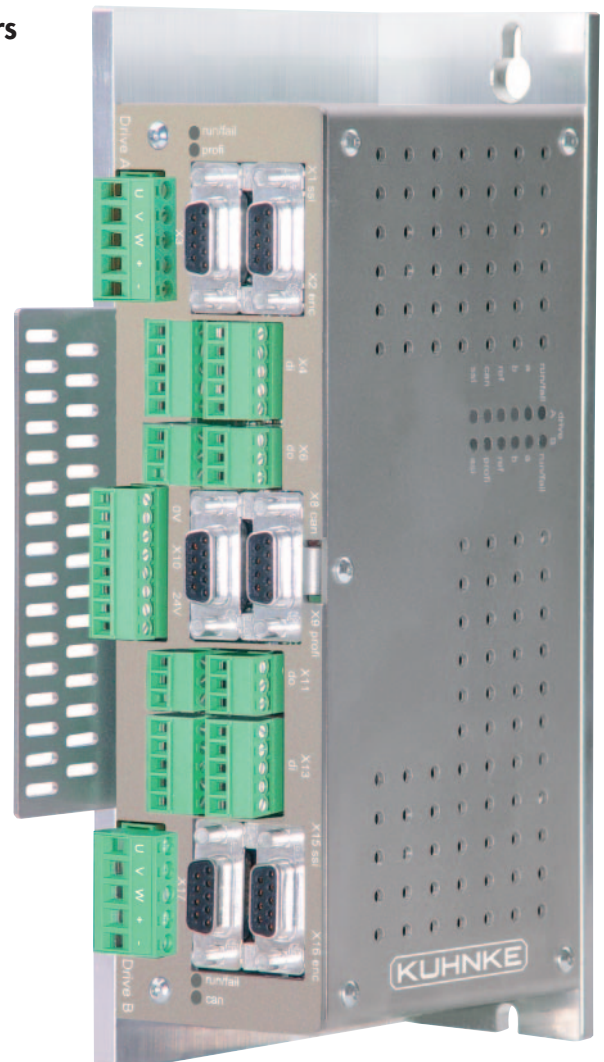


# IMPULSES FOR AUTOMATION

## DriveControl 683EC

**DriveControl 683EC, 1 positioning controller for 2 motors**

- Designed for the operation of two EC or DC motors
- Max. motor output 500 W per motor
- Motor voltage range 12 - 60 V DC
- Integrated power electronics, motor management, logic circuitry and bus ports (PROFIBUS, CAN, RS232)
- Standard inputs: incremental, absolute value and analogue value encoder



## System description

Positioning controller **DriveControl 683EC** is designed to operate Hall-commutated DC motors (EC motors) or brush-operated DC motors (DC motors) with max. 500 W per motor. Rated voltage and type of commutation can be set separately for every driving line. The positioning controller has a PROFIBUS DP field bus interface for communication with a vendor-independent master system based on the PROFIDRIVE protocol. Following transfer of driving and motor parameters, the system automatically pre-selects a mode (e.g. positioning functions) to relieve the master system.

**DriveControl 683EC** is optionally available in an IP 66 housing. Installation and wiring is facilitated by the ensuing decentralisation of the power and control electronics via one field bus interface. There is no more need for complicated wiring between control electronics in the switching cabinet and the encoder system or the reference or limit switches in the machine. Decentralised installation of **DriveControl 683EC** supports the setup of modular machine arrangements at reduced installation efforts. Key benefits are reduced costs of production, functional testing and start-up both in the factory and at the end customer's location.

The positioning drives are used in the following areas of application:

- Mass machine manufacture (manufacturing machines of any kind), OEM
- Special machine building
- Paper industry
- Printing industry
- Textile machines
- Machine tools
- Packaging industry
- Wood processing
- Ventilation and air conditioning

## Operating modes and functions

Every drive unit controlled by **DriveControl 683EC** can be separately run in one of the four following modes:

### Positioning

The drive moves to a target position set by the field bus. Positions are detected by absolute and incremental SSI sensors or analogue sensors.

### Referencing

A reference run is required, if you use an incremental position sensor. There is the extra option of having the master controller retrieve the last actual position of a referenced drive unit after switching on **DriveControl 683EC**.

### Inching

You can set a target inching speed and assign it to the drive unit via the digital inputs or the field bus.

### Torque control

Set a max. torque to limit the drive power in the above mentioned operating modes. Blocking messages are disabled.

Both drive units can be synchronously moved as a kind of "electrical gear". The integrated CAN port allows you to synchronise several **DriveControl 683EC**.

Motor parameters are transferred and manipulated via the PROFIBUS DP or RS232 port. Drive data can be recorded by the PC-based parameter control and startup software.




### DriveControl 683EC functions:

- Four-quadrant speed controller
- Position regulator
- Variable start/stop ramps
- Ramp functions,  $\sin^2$
- Gear play compensation
- Anti-blocking system
- Adjustable max. motor current
- System monitoring (e.g. fault)
- 2 digital outputs (e.g. brake)
- 4 digital inputs (e.g. limit switch)

Positioning controller **DriveControl 683EC** has hitherto been successfully used with EC and DC motors of the following manufacturers:

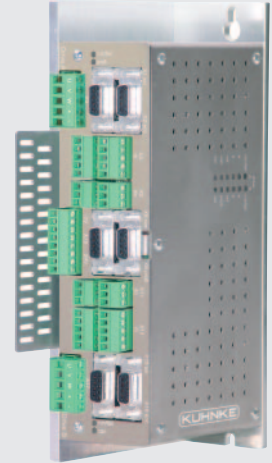
- Baumüller
- Dunkermotoren
- Groschopp
- Maxon
- Papst
- Wittenstein
- ... further tests are under way

## Ports

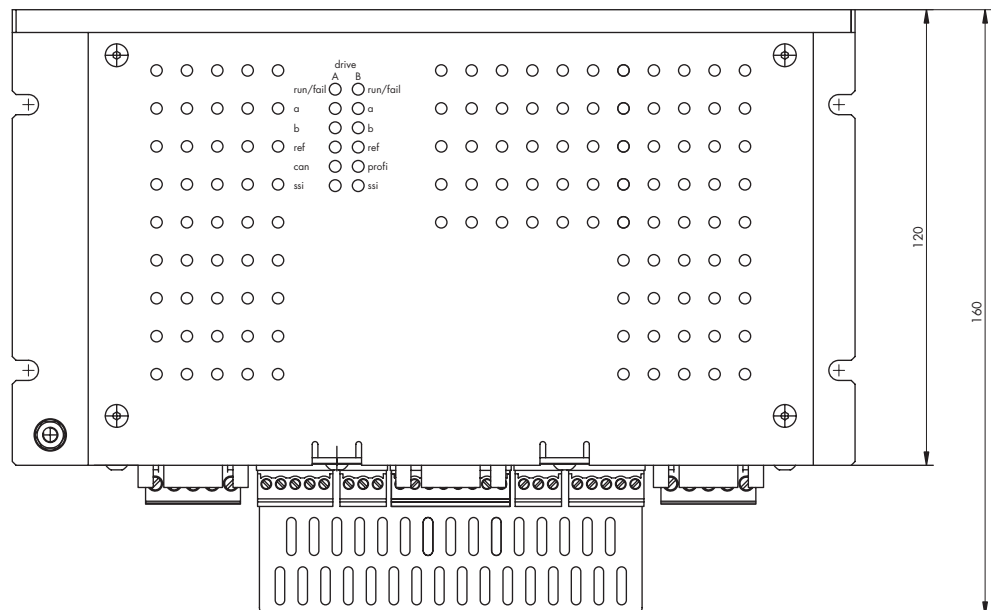
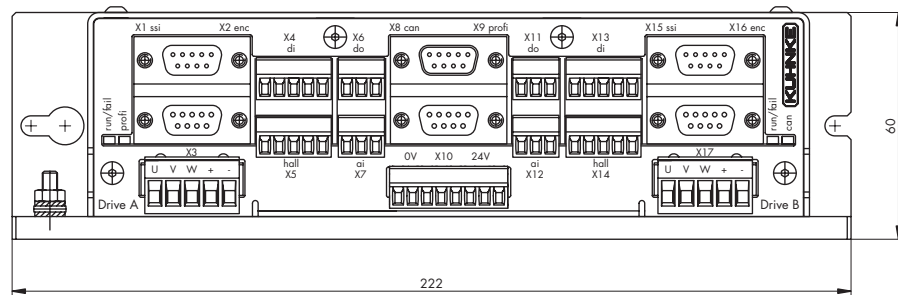
	<p><b>PROFIBUS DP</b> based on the PROFIDRIVE profile for variable speed drives. The device functions are designed for communication via PROFIBUS DP. PROFIBUS DP slave with a maximum transfer rate of 12 Mbit/s</p>
	<p>CAN port for the CAN bus networking of several <b>DriveControl 683EC</b> up to 1 Mbit/s</p>
	<p>Serial port up to 57.6 Kbit/s for PC parameter control and startup software communication</p>

## Technical data

Electronics supply	24 V DC +/- 20 %, 0.5 A
Motor supply	12 ... 60 V DC +/- 20 %
Rated motor current	10 A
Peak motor current (500 ms)	30 A
Motor output	max. 2 x 500 W
Hall sensor input	10 V DC, 60°/120°
Incremental encoder input	5 / 24 V DC, TTL or RS422
Absolute value encoder input	5 / 24 V DC, SSI
Analogue value encoder input	0 ... 10 V
Digital port	4 DI / 2 DO, 24 V DC
Protection	IP 20
Ambient temperature	0 ... 55 °C
PROFIBUS DP	up to 12 Mbit/s
CAN	up to 1 Mbit/s
Connectors	
Motor supply	max. 2.5 mm <sup>2</sup>
Electronics supply, Hall sensors, analogue and digital ports	max. 1.5 mm <sup>2</sup>
Absolute value encoder, incremental encoder, PROFIBUS, CAN, RS232	9-pin D-SUB male/female connector



## Dimensions



## Part numbers

Part number	Name	Description
683.010.00	DriveControl 683EC	Positioning controller

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