



# Congrav®

## CB-E

Feeding System Controller



### General Information

The Congrav® CB-E is a microprocessor based controller for all Brabender loss-in-weight or weigh belt gravimetric feeders. This module is typically DIN rail mounted in a control cabinet.

Each Brabender Congrav® CB-E module has an advanced 32 bit RISC processor that performs the calculations necessary to provide accurate feeder performance and is designed for demanding industrial environments.

The control module [Congrav® CB-E](#) is interconnected by a bus and connected to either the Congrav® OP1-E (for a single feeder), Congrav® OP6-E (up to 6 feeders) or the Congrav® OP16-E (up to 16 feeders) Operator Interface by a single cable connection (SCC).

Controls can also communicate directly to most host/PLC systems.

The unit conforms to CE directives and is characterized by high electromagnetic compatibility.



### In and outputs

Inputs	3 digital inputs (24 VDC) often used for start/stop or interlock
Outputs	3 digital outputs (24 VDC) often used for run, refill and alarms

### Interfaces

The control module Congrav® CB-E offers several interfaces including:

Interface	Function
Interface for IDL-F, MD, DLS load cell and DMS digital Module (RS 422)	Reading the weighing signal
Host-/SPS-Interface	Communicate to host systems. Optional Ethernet Modbus TCP, Profibus DP, Profinet, EtherNet/IP
Brabender-fieldbus interface (RS 485)	For operation of the Congrav® OP6-E and OP16-E or PC for diagnostics and maintenance
Speed controller (RS 485)	For regulating speed
I/O Interface	Digital and analog expansion modules (RS 485)
Interface to Congrav® OP1-S (RS485)	For diagnostics and maintenance



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### Optional expansion modules

The hardware of the Congrav® CB-E can be extended by optional expansion modules. These modules are connected to the serial interface and are supplied with 24VDC power from the Congrav® CB-E.

Digital I/O module: 4 digital inputs (often used for start, stop, alarm reset), 4 digital outputs (often used for run, alarm)

Analog I/O module: 2 analog inputs 0(2)-10 V (often used for analog control signals), 2 analog outputs 0(4)-20 mA (often used for actual value, control signal)

### Technical Specification

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Rated voltage	DC 24V (20 - 36V)
Residual ripple, spikes	< 200mVss; < 300mVss
Rated output	Typ. 5 VA (with extension up to 20 VA)
Rated current	833 mA
Fuses	Reverse polarity protection + 2 fuses Fuse CB: 2 AT; external fuse I/O: 1 AT
Ambient temperature	0°C to +45°C (32°F to +113°F)
Transport/storage:	-20°C to +85°C (-4°F to +185°F)
Humidity of the air	Up to 85% without condensation
Protection	IP 20
Dimensions (HxWxD)	143 x 177 x 69 mm
Housing material	Molded plastic
Mounting	DIN rail, clamp assembly
Weight	Approx. 0.6 kg (1.3 lb)

### Electromagnetic compatibility (EMC)

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Emitted interference	Requirements acc. to EN 55011 Limit class A acc. to EN 55011 Limit class B acc. to EN 55011	
Interference resistance	Requirements acc. to EN 61000-6-2: 2005	
	Requirement	Standard
	ESD	EN 61000-4-2 (2009)
	HF radiation	EN 61000-4-3 (2006)
	Burst	EN 61000-4-4 (2004 + A1)
	Surge	EN 61000-4-6 (2006)
	Inflow	EN 61000-4-6 (2009)
	Interference voltage	CISPR 11