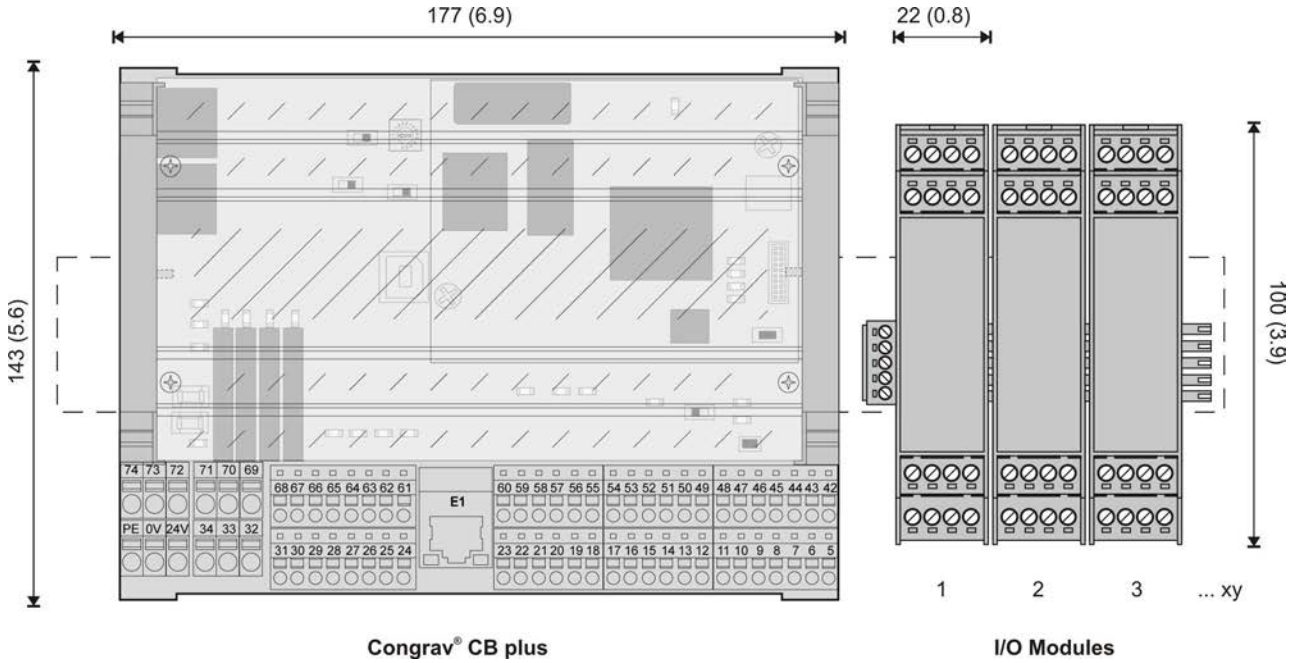
Brabender Feeder Control Module
Congrav® CB *plus* for Single Gravimetric Feeders

The Congrav® CB *plus* is a microprocessor based controller for all Brabender loss-in-weight or weigh belt gravimetric feeders.
The Congrav® CB *plus* is typically rail mounted in a control cabinet with the Brabender OP 1T operator interface (see separate Works Standard).
Direct communication from Congrav® CB *plus* is also available for most host/PLC systems via one of the following: Ethernet Modbus TCP, Profibus DP, Profinet, EtherNet/IP, others on request.
For Siemens PLC operation, loadable function blocks (software) are available to ensure dependable feeder performance.
The Congrav® CB *plus* also supports various options such as digital and analog extension modules (I/O modules) with additional digital or analog inputs and outputs for free configuration.
The Brabender Congrav® CB *plus* conforms to CE directives and features high electromagnetic compatibility.



Dimensions in mm (in)

Brabender Technologie GmbH & Co. KG, Kulturstrasse 55-73, 47055 Duisburg, Germany, Tel: +49 (0) 203 9984-0, email@brabender-technologie.com
Brabender Technologie Inc., 6500 Kestrel Road, Mississauga, Ontario L5T 1Z6, Canada, Tel: 1-905-670-2933, sales@brabenderti.com

Technical Data

Application

- Individual control of single Brabender loss-in-weight or weigh belt gravimetric feeders

Design

The Brabender Congrav® CB *plus* control module has been designed for the most demanding industrial environments and offers the following:

- Housing for DIN rail mounting
- Weight approx. 0.6 kg (≈ 1.3 lb)
- IP20 (≈ NEMA 1) rated enclosure
- Power supply 24 VDC
- Power consumption approx. 5 VA (with I/O modules, OP 1T, etc. up to 20 VA)
- Operation in environmental conditions of 0-45°C (32-113°F) and up to 85% humidity without condensation
- Noise immunity in compliance with the following directives and harmonized specifications of the European Union:
  - EN 61000-6-2: 2005 (EMC)
  - EN 61000-4-2: 2009 (ESD immunity)
  - EN 61000-4-3: 2006 (radiated RF immunity)
  - EN 61000-4-4: 2004 + A1 (burst immunity)
  - EN 61000-4-5: 2006 (surge immunity)
  - EN 61000-4-6: 2009 (conducted RF immunity)
  - EN 55011, class B: 2009 + A1: 2010 (emission)
  - CISPR 11 (interference voltage/current)
  - CISPR 11 (radiation)
- Compliance with CE directives

Feeder Control Congrav® CB *plus*

The Brabender Congrav® CB *plus* module has an advanced 32 bit RISC processor that performs the calculations necessary to provide accurate feeder performance. Other features are:

Interfaces

- RS 485 for single feeder touch screen Operator Interface Congrav® OP 1T
- Host/PLC interface (direct communication is available via one of the following: Ethernet Modbus TCP, Profibus DP, Profinet, EtherNet/IP, others on request)
- RS 422 for DigiMASS-2 or IDL-F digital load cells, or strain gauge load cell (with strain gauge to digital converter module)
- RS 485 to speed controller
- RS 485 for I/O bus when using I/O modules (see options)
- RS 485 for diagostics and maintenance (PC or laptop)

Inputs

- 3 digital inputs (24 VDC) often used for start/stop or interlock
- Frequency input for digital speed feedback (input voltage 24 VDC, frequency range 0-10 kHz)

Outputs

- 3 24 VDC relay outputs most often used for run, refill and alarms

Options

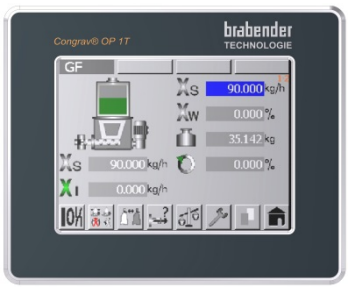
- I/O modules for DIN rail mounting (communications via Brabender I/O Bus):
  - Digital I/O module: 4 digital inputs (often used for start, stop, alarm reset, etc.), 4 digital outputs (often used for run, alarm, etc.)
  - Analog I/O module: 2 analog inputs 0(2)-10 V (often used for analog control signal), 2 analog outputs 0(4)-20 mA (often used for actual value, control signal)
- Loadable function block (software) for easy Siemens PLC integration
- Diagnostics software "Smart Service" available for PC or laptop use

Operating and Display Unit

When direct host/PLC communication is not used, single Brabender gravimetric feeders with Congrav® CB *plus* modules are operated by the Brabender touch screen human/machine interface Congrav® OP 1T for single feeder operation.

If the Congrav® CB *plus* communicates with a host/PLC system directly, the Congrav® OP 1T can also be used for maintenance, trouble-shooting and set up on Congrav® CB *plus* modules.

Please refer to the appropriate Works Standard for further details.



Congrav® OP 1T

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