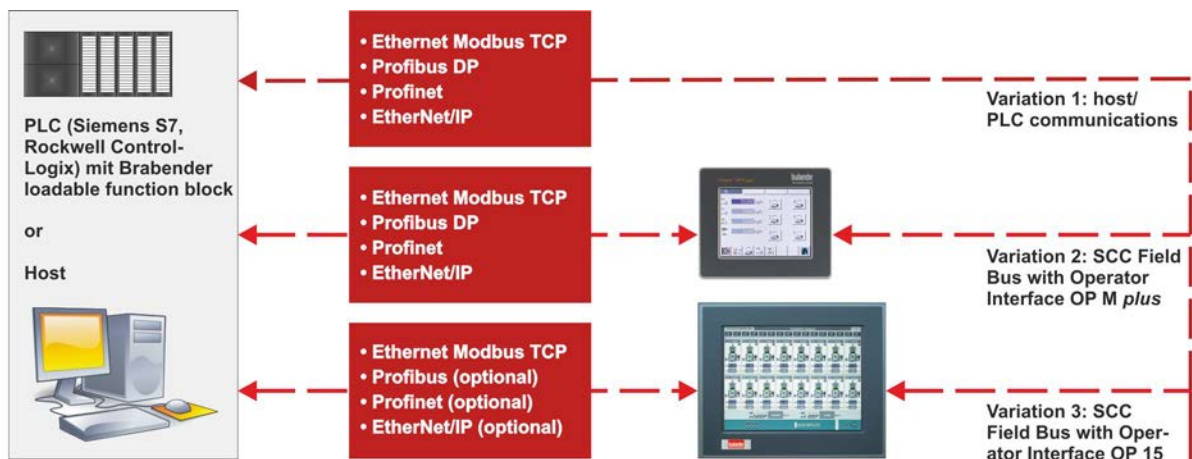


## Brabender Feeder Control Module Congrav® CB plus for Multiple Gravimetric Feeders

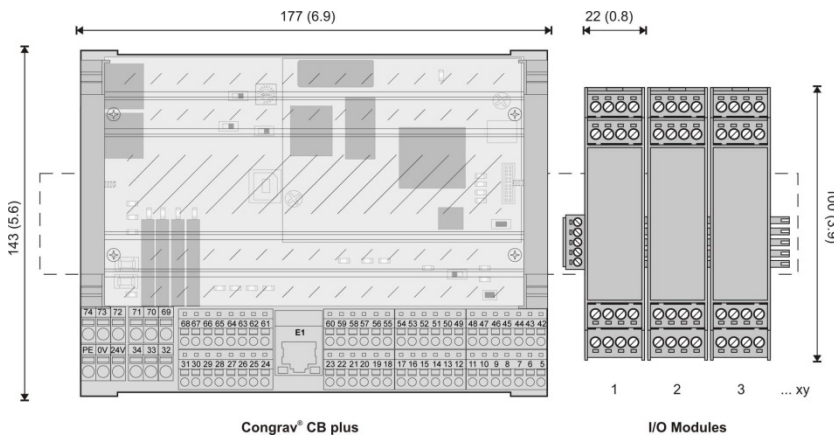
Congrav® CB plus modules are microprocessor based controllers for all Brabender loss-in-weight or weigh belt gravimetric feeders with 3 phase AC motors. Congrav® CB plus modules are typically rail mounted in a control cabinet. There is one module for each feeder.

In multiple feeder control configurations, the Congrav® CB plus feeder control modules are interconnected by a bus and connected to either the Congrav® OP M plus or the Congrav® OP 15 Operator Interface by a single cable connection (SCC).

port to a PC, laptop or Brabender Congrav® OP 1T operator interface for diagnostics and set up. 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 selectable within predefined functions. Brabender Congrav® CB plus feeder control modules conform to CE directives and feature high electromagnetic compatibility.



# Technical Data



## 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

## Application

- Individual control of Brabender loss-in-weight or weigh belt gravimetric feeders in multiple feeder systems (1 module per feeder)

## Design

Brabender Congrav® CB plus feeder control modules have been designed for the most demanding industrial environments and offer 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

Each 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 Brabender Field Bus (also for Congrav® OP M plus/OP 15 operator interface or PC/laptop for diagnostics and maintenance)
- 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 (for speed controllers please refer to the appropriate separate Works Standards)
- RS 485 for I/O bus when using I/O modules (see options)
- RS 485 for diagnostics and maintenance (Congrav® OP 1T)

### 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

## Operating and Display Unit

When direct host/PLC communication is not used, multiple Brabender gravimetric feeders with Congrav® CB plus feeder control modules are operated by one of the Brabender touch screen human/machine interfaces Congrav® OP M plus (max. 6 feeders) or Congrav® OP 15 (max. 16 feeders).



Congrav® OP M plus



Congrav® OP 15

Please refer to the appropriate separate Works Standards for further details.



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