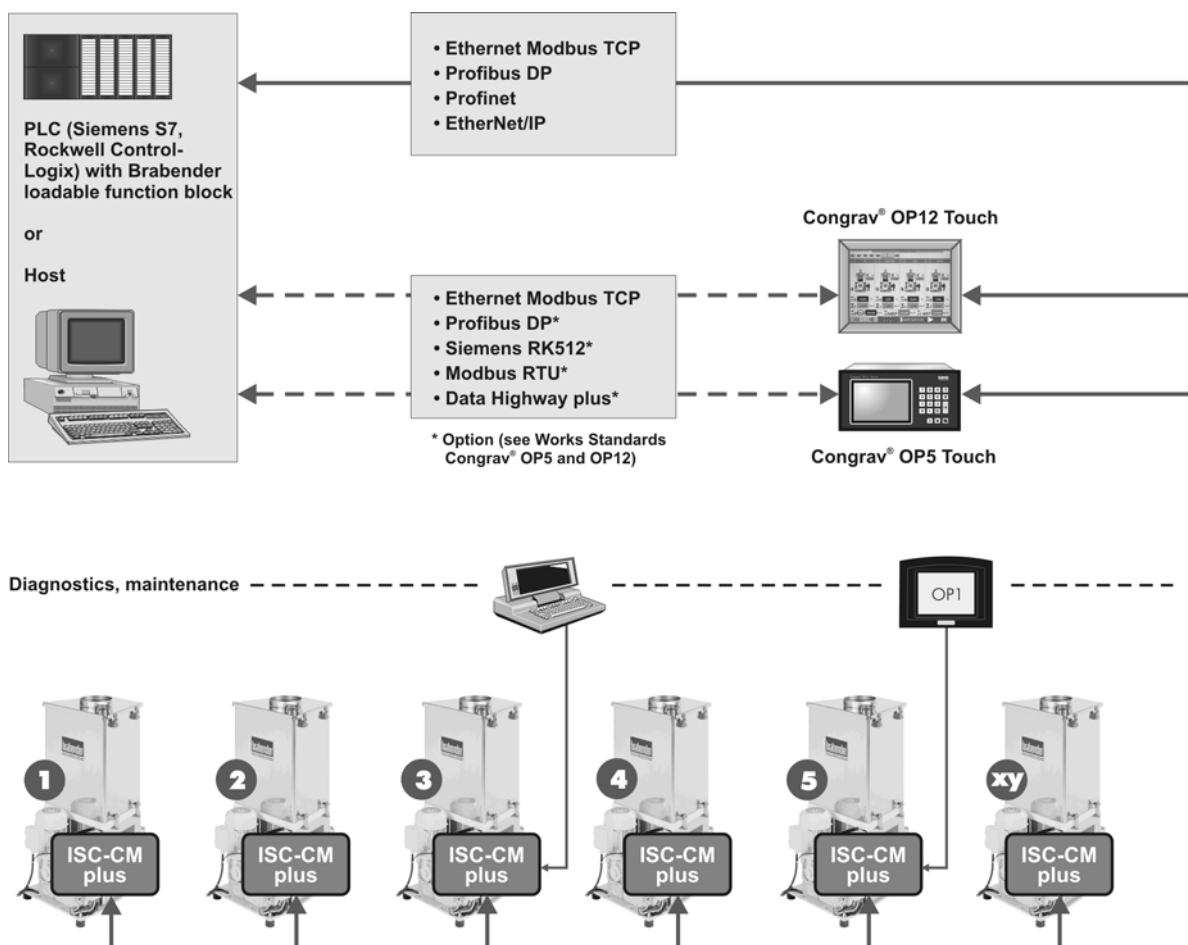
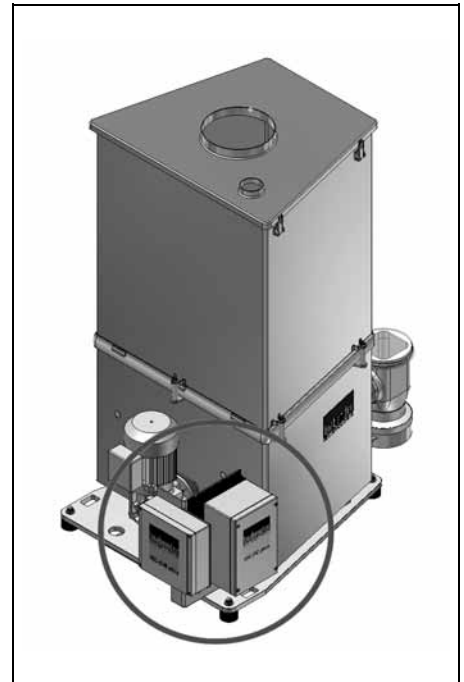


Brabender Feeder Control and Speed Control Modules ISC-CM plus / ISC-FC plus for multi-feeder systems

The Brabender ISC (Intelligent Signal Conditioner) modules ISC-CM plus (feeder control module) and ISC-FC plus (speed control module) are feeder-mounted intelligent electronic modules allowing the integration of gravimetric metering feeders with three-phase current drives (loss-in-weight feeders, weigh-belt feeders, etc.) in multiple feeder control systems interfaced with the Brabender touch screen operating units Congrav® OP 5 or Congrav® OP 12 and/or with customers' automation systems (host/ PLC). For that purpose the ISC-CM plus modules of the weigh-feeders are interconnected through Ethernet interfaces (Ethernet Modbus TCP) or a field bus (Brabender SCC Field Bus) and are connected to the respective operating units. For direct connection to PLC systems

a loadable function block (software) is available to ensure dependable weigh-feeder operation. Each ISC-CM plus module is equipped with a diagnostics and maintenance interface to connect a PC, laptop or the Brabender parameter entry unit Congrav® OP 1. Compared with conventional technology, the integration of the metering, control and regulation electronics in the weigh-feeders themselves saves all control cabinets otherwise required and reduces cabling and installation work to a minimum. Additional weigh-feeders can easily be integrated in the network at later stages of extension. As alternatives to Ethernet Modbus TCP or the Brabender SCC Field Bus, Profibus DP, Profinet, EtherNet/IP and - on request - other systems are available.



SCC = Single Cable Connection

Technical Data*

Design



- Brabender feeder control module ISC-CM plus (ISC = Intelligent Signal Conditioner)
- Brabender speed control module ISC-FC plus with frequency converter for three-phase current motors
- Closed housings, mounted on the weigh feeder, internally wired and workshop-tested
- Ambience: 0-50°C (32-122°F), max. 85 % air humidity without condensation
- Noise immunity: The modules comply with the following EU directives and harmonized specifications:
 - EN 61000-4-2 (ESD immunity)
 - EN 61000-4-3 (radiated RF immunity)
 - EN 61000-4-4 (burst immunity)
 - EN 61000-4-5 (surge immunity)
 - EN 61000-4-6 (conducted RF immunity)
 - CISPR 16 / EN 55011 class A (interference voltage)
- The modules comply with CE directives

ISC-CM plus

- Feeder control module with 32 bit RISC processor
- Enclosure protection: IP 65
- Power supply by speed control module ISC-FC plus (+24VDC)

Interfaces/inputs:

- SCC Field Bus: RS 485

- Ethernet Modbus TCP (alternative bus systems: Profibus DP, Profinet or EtherNet/IP, others on request)
- RS 422 interface for digital load cell DigiMass-2 (2 vibrating wires), intelligent digital load cell IDL-F (vibrating wire) or strain gauge load cell with strain gauge/digital module
- RS 422 diagnostics / parameter entry interface for PC, laptop or Brabender local parameter entry unit Congrav® OP 1 for start-up and service
- 3 digital inputs (24 VDC, e.g. for interlocking or start/stop)
- Frequency input for digital speed feedback (input voltage 24 VDC, frequency range 0-10 kHz)

Outputs:

- 1 RS 485 interface to speed control module ISC-FC Plus (signal transmission to the speed controller of the weigh feeder)
- 3 relay outputs (24 VDC, e.g. for operation, refill, malfunction), further optional digital/analog outputs available

Variant

- ISC-CM-SG plus with integrated strain gauge/digital module

Accessories:

- External digital extension module (4 inputs, 4 outputs)
- External analog extension module (2 inputs, 2 outputs)
- Brabender plug-in local parameter entry unit Congrav® OP 1
- Loadable function block (software block) for easy integration in automation systems
- Diagnostics software "Smart Service" for PC

Special design:

DeviceNet (hardware option)

ISC-FC plus

- Speed control module with integrated frequency converter for gravimetric metering feeders with three-phase current motors (loss-in-weight feeders, weigh-belt feeders, etc.)
- Enclosure protection: IP 65

Interfaces/inputs:

- Mains: 180-264 V ± 0 %, 48-62 Hz
- RS 485 interface for the control signal from the feeder control module ISC-CM plus

Outputs:

Metering feeder connection (three-phase current motor)

Operating and Display Units

- Brabender touch screen operating and display units Congrav® OP 5 or Congrav® OP 12 for multiple feeder control systems with ISC-CM/FC plus modules (see according Brabender Works Standards)



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