

# Brabender Multiple Feeder Control Systems

All Congrav® controller algorithms include self tuning PID and max. feed rate self calculation.

Load cell filter strength selectable from keypad/display.

## Hard Wired Controller



**Congrav® L/M-3A**  
Multi feeder controller, up to 16 feeders with 2 feeders per plug-in module, 16 line/48 characters display. Control of 2 extrusion lines (optional).

## Brabender Host Products

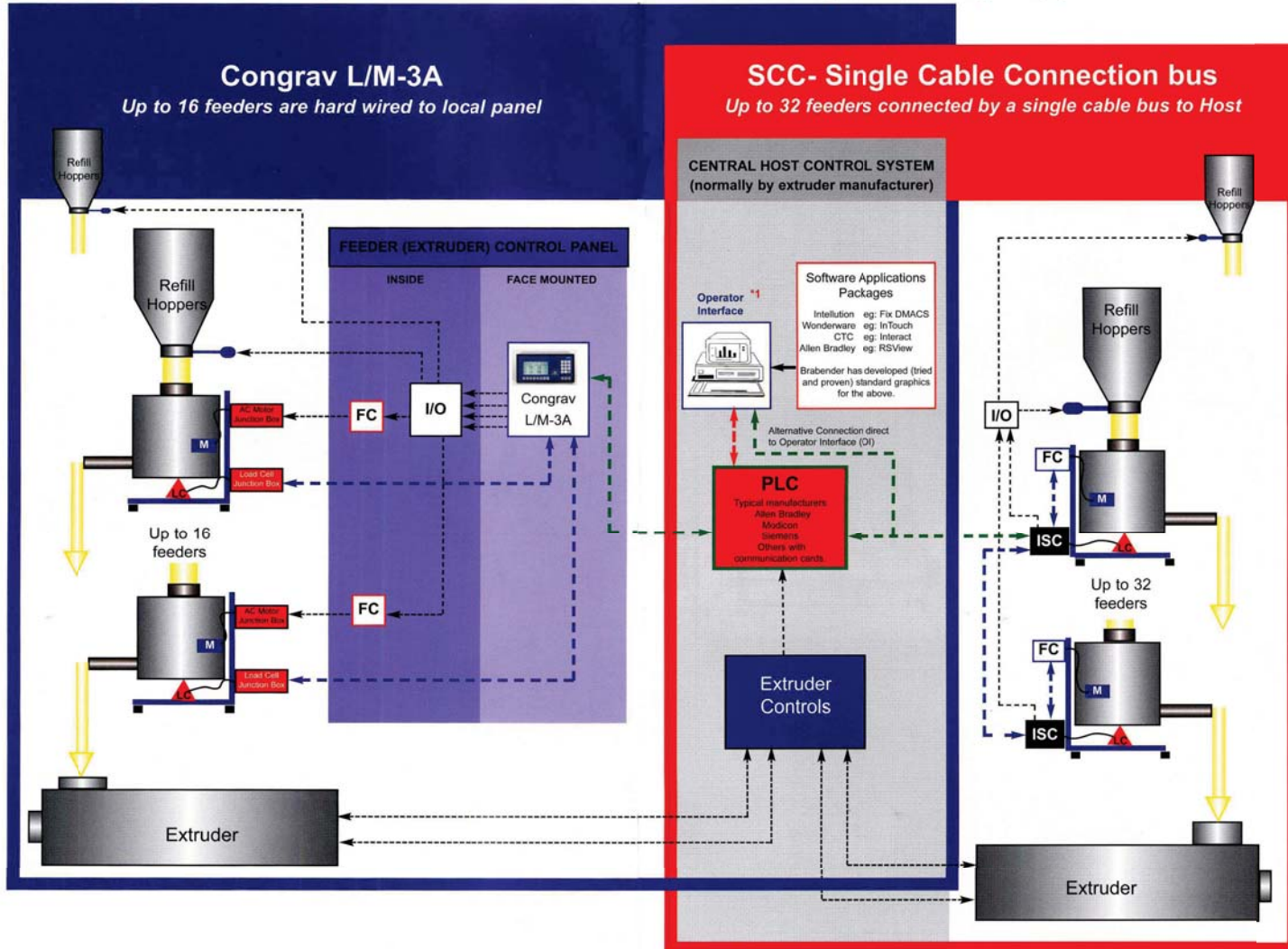
The following components can be used in conjunction with or instead of the control host.



**Congrav RC-4**  
Multi feeder controller terminal used in the SCC system, control terminal for up to 16 feeders. 16" backlit LCD display. Option boards for additional I/O.



**Brabender IPC (Industrial PC)**  
is supplied with PROVIS software package. Printer connected via Centronics Interface. The display is 12" color. Provis (Process Visualization) is a Brabender developed, menu driven software package. It operates under Windows NT (Microsoft). Provis software is also available on CD-ROM for installation in customer's PC.



**Load Cell: LC**  
LC can be Brabender's proprietary IDL-F (Intelligent Digital Load Cell-Filtered) or Strain Gauge.

**Motors: M**  
Motors are heavy duty, low maintenance AC-Three phase for Variable Frequency Speed Control (FC).

**\*1 Operator Interface**  
Operator interface can be a computer (to accept the software applications), or a terminal (such as Allen Bradley PanelView or Cutler-Hammer PanelMate), or one of Brabender's Host Products.

**No Feeder Control Panel**  
SCC has the added advantage of not requiring controller enclosures and the associated interconnecting wiring.

**SCC: Single Cable Connection bus**  
By combining the ISC and FC feeder mounted controls (NEMA 4), a single cable connection for up to 32 weigh feeders is used to connect to the host.

**ISC-CM: Intelligent Signal Conditioner Control Module**  
It is the feeder-mounted "brain" and controls all feeder functions. A laptop (RS232 cable) is used to locally access and change parameters.



**ISC-FC: Frequency Control**  
-FC: Variable frequency drive for AC Motors.  
-VC: Vibratory control for vibrating tray feeders.



## Communication

**Feeder to PLC** (green dashed arrow)  
RS422  
Standard Protocols developed tried and proven include:  
- Allen Bradley DH+  
- DeviceNet  
- Modicon Modbus  
- Siemens RK512 (with 3964R)  
- Profibus-DP (and DP-V1)

**PLC to Operator Interface** (red dashed arrow)  
(computer or terminal)  
Ethernet, Profibus, Canbus, Modbus, DH+, Control Net, InterBus S and others...

**ISC-CM to ISC-FC and Feeder ISC-CM to Feeder ISC-CM** (blue dashed arrow)  
ISC Bus proprietary single cable