

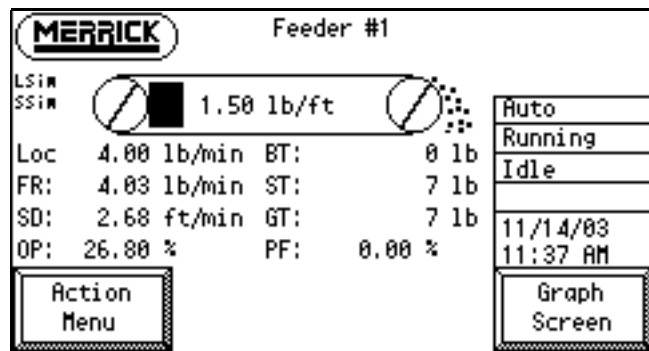
**Advanced Weigh Belt Application**

The MC<sup>3</sup> 2020 Controller is designed to be the ultimate controller for belt weighing and feeding applications. The MC<sup>3</sup> 2020 Controller can be used as a:

Belt Scale Integrator	Weighing, Totalization and Alarms for Belt Scales
Belt Weigher	Weighing, Totalization and Alarms for Integrated Belt Weighers
Belt Feeder Controller	Closed-loop feedrate control of integrated Weigh Belt Feeder.
Batching Controller	On-demand delivery of a set amount of material
Pre-Feeder Control	Control of feed device upstream of the Belt Weigher

**Instream Calibration**

Another advanced capability of the MC<sup>3</sup> 2020 is the ability to perform an “Instream Calibration” while feeding material. This can be accomplished by using a material storage hopper mounted on load cells supplying material to the infeed of the weigh feeder. The signal from the load cells can be used to calibrate the weigh feeder even as material is being fed by the belt.

**Main Screen Description****Process Values displayed include:**

- Feedrate
- Belt Load
- Belt Speed
- Feedrate Setpoint
- Sub-Total & Master Total
- Output % to drive
- Output % to Pre-Feeder
- Batch Total

**Operator settable parameters include:**

- Feedrate Setpoint
- Belt Speed Limits
- Belt Load Limits
- Feedrate Limits
- Setpoint Mode
- Pre-Feeder Parameters

**Status Indicators include:**

- Controller State
- Run Permission
- Gravimetric
- Feedrate State
- Date & Time
- Fault Indications
- Warning Indications
- Pre-Feeder State
- Batch State

**Physical Inputs and Outputs****Standard I/O Includes:**

- Seven (7) Digital Outputs
- Four (4) Digital Inputs
- Two (2) Analog Outputs
- One (1) Analog Input
- DC Pulse Output for Totalizer
- AC Pulse Output for Totalizer

**Standard Communication Interfaces:**

- Merrick Serial Communications Protocol
- Modbus ASCII
- Modbus RTU
- Allen Bradley DF-1

**Optional (Maximum) I/O:**

- Fourteen (14) Digital Outputs
- Eight (8) Digital Inputs
- Four (4) Analog Outputs
- Two (4) Analog Inputs

**Optional Communication Interfaces:**

- EtherNet (A-B and Modbus)
- DeviceNet
- ControlNet
- Profibus

**Logical Digital Inputs and Outputs**

Each physical Digital Input and Digital Output can be assigned (mapped) to a Logical I/O Function. In addition, the normal state of the input or output can be assigned such as normally open/closed, inverted or forced on/off.

**Commonly used Logical Digital Inputs include but are not limited to:**

- Run Permission
- Feeder Block
- Gravimetric Mode
- Print
- Belt Running
- Diverter Valve
- Start & Stop Batch

**Commonly used Logical Digital Outputs include but are not limited to:**

- Faults
- Warnings
- Low & High Feedrate
- Good Feedrate
- Low & High Belt Load
- Belt Slippage
- Low & High Speed Limits

**Logical Analog Inputs and Outputs****Commonly used Analog Inputs:**

- Feedrate Setpoint
- Belt Load Setpoint
- Panel Meter Level

**Commonly used Analog Outputs:**

- Control to Signal Motor Drive
- Feedrate
- Belt Load
- Belt Speed
- Pre-Feed Control