

THAYER SCALE

PROCESS MEASUREMENT & CONTROL EQUIPMENT

Model S52i Belt Scale & Weigh Belt Integrator



- **Weigh & Communicate**
- **State-of-the-Art Technology**
- **Powerful**
- **Flexible**
- **Easy to Use**

THAYER's S52i Integrator is a full featured instrument in a single, compact package. It performs the same functions as an instrument costing many times more without sacrificing the accuracy associated with THAYER products. Simplicity of use has always been a very important factor in designing an instrument and the S52i has inherited all the time and labor saving methods THAYER has developed over the years.

The S52i Instrument can be used on most belt conveyor weigh belt systems to provide continuous information about the flow of material to its process by monitoring the load and speed. The weigh system must use a strain gauge to sense weight; however a variety of sensors can be used to sense the speed. Weight information is processed as weight per length and speed is processed as unit length per time. Integrated together, a great deal of information is available about the system, such as: flow rate; accumulated weight (total); belt loading; belt speed; etc.

Input Power Requirements

- Voltage Range: 120 to 240 VAC
- Frequency Range: 50 to 60 Hertz
- Phase Requirement: Single Phase
- Power Consumption: < 43 W
- Supply Protection: Fused

Environmental Requirements

- Area Classification: Non-Hazardous.
- Operating Temperature: 14 to 158° F (-10° to +70° C).
- Operating Humidity: 10 to 90% Non-Condensing
- Storage Temperature: -4 to 185° F (-20° to +85° C).
- Storage Humidity: 5 to 95% Non-Condensing.
- Altitude: Operational Up to 2000 Meters
- Altitude Storage: Up to 3000 Meters (70 kPa)
- Cooling Method: Natural Convection

Standard Dimensional Requirements

- Open Chassis, Type IP23 8.0”H x 6.0”W x 4.5”D (203.2 x 101.6 x 114.3 mm)
- Enclosed, Type IP66 11.81”H x 9.84”W x 5.91”D (300 x 250 x 150 mm)

Standard Input/Output Specifications

- Analog Output: Isolated 4-20 mA into 750 Ohm Load Maximum Sourcing, +24VDC Compliance Voltage, Range 0-24 mA AO-1 Programmable, Field Selectable
- Digital Inputs: Require Dry Contact Closures Sourcing, +12VDC with 10 mA Minimum Sink Current
 - DI-DS Discrete - Drive Status
 - DI-1, 2, 3 Programmable, Field Selectable
- Digital Outputs: Isolated Relay Outputs
 - Max. Voltage 240 VAC/VDC, Max. Current 120 mA
 - DO-1,2,3 Programmable (Form A) , Field Selectable Rem. Totals Discrete – Remote Totalizer (Form A)

Communication Options:

- DeviceNet,
- PROFIBUS,
- Ethernet/IP & MODBUS/TCP,
- Q2 – Allen-Bradley DF1 and MODBUS RTU.



Currently Available Digital Output Selections:

Common Alarm	<i>Activated when a programmed alarm condition occurs.</i>
Alarm – Low Load	<i>Activated when a programmed Low Load alarm condition occurs.</i>
Alarm – High Load	<i>Activated when a programmed High Load alarm condition occurs.</i>
Alarm – Low Speed	<i>Activated when a programmed Low Speed alarm condition occurs.</i>
Alarm – High Speed	<i>Activated when a programmed High Speed alarm condition occurs.</i>
Alarm – Low Rate	<i>Activated when a programmed Low Rate alarm condition occurs.</i>
Alarm – High Rate	<i>Activated when a programmed High Rate alarm condition occurs.</i>
Audible Alarm	<i>Output assigned to a horn or bell for an alarm condition. Deactivated by the ACK key or the SIL key.</i>
Audible Shutdown	<i>Output assigned to a horn or bell for a shutdown condition. Deactivated by the ACK key or the SIL key.</i>
Auto Zero	<i>Asserted during an Auto Zero cycle.</i>
Belt Mistracking	<i>Asserted when Belt Limit Switch input is closed.</i>
Calibration Done/Error	<i>Asserted at the end of a calibration cycle.</i>
Calibration Running	<i>Asserted while in the calibrate mode.</i>
Drive Fault (motor starter)	<i>Asserted when attempting an operation requiring the belt to be in motion and the motor interlock is open.</i>
Factory Default Values in use	<i>Asserted whenever menu parameters match the factory default values.</i>
In Weigh Mode	<i>Asserted when the instrument is in the weigh mode of operation.</i>
Shutdown	<i>Asserted when a shutdown has occurred. Cleared by the ACK key.</i>
Tachometer > Zero	<i>Asserted whenever the speed is above zero.</i>
Not Used	<i>Disables Digital output.</i>

Currently Available Digital Inputs Selections:

Acknowledge	<i>Performs the same function as pressing the ACK key on the S52i keypad.</i>
AutoZero:	<i>Initiates a single (momentary) or continuous (maintained) Auto Zero calibration.</i>
Belt Limit Switch:	<i>The state of this input is passed to the communications table and Belt Mistracking output.</i>
OI Lock:	<i>When asserted disables front panel keys that may change the operation of the instrument such as menu parameters and calibration.</i>
Reset ALL Totalizers:	<i>Resets all internal totalizers to zero (momentary).</i>
Reset Totalizer #1:	<i>Resets totalizer #1 (momentary).</i>
Reset Totalizer #2:	<i>Resets totalizer #2 (momentary).</i>
Silence:	<i>Performs the same function as pressing the SIL key on the display.</i>
Not Used:	<i>Disables Digital input</i>

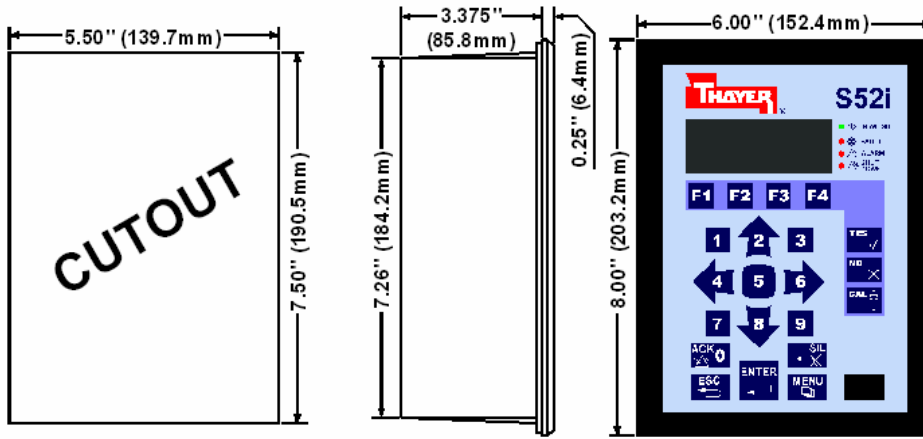
Input/Output Configuration:

The three user configurable digital inputs are provided to allow the user to remotely control selected features and functions of the S52i. Each input is independent of the others. The same function should not be programmed to more than one input. The user must provide a contact closure capable of sinking 10ma @12vdc between the appropriate input terminals.

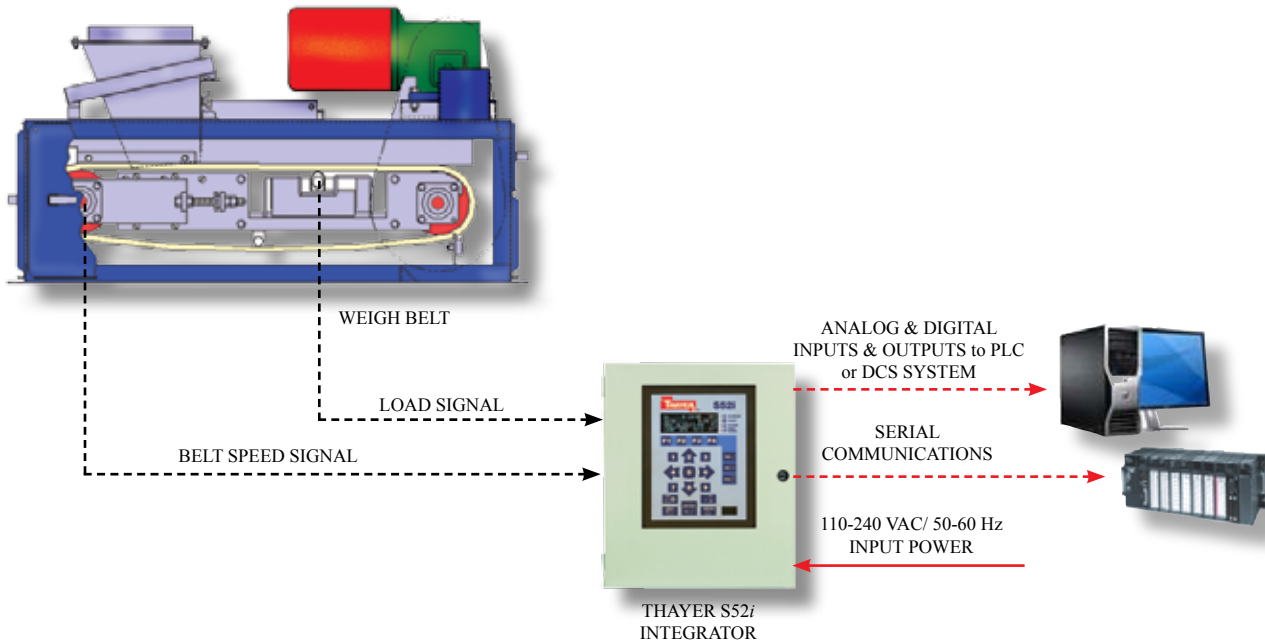
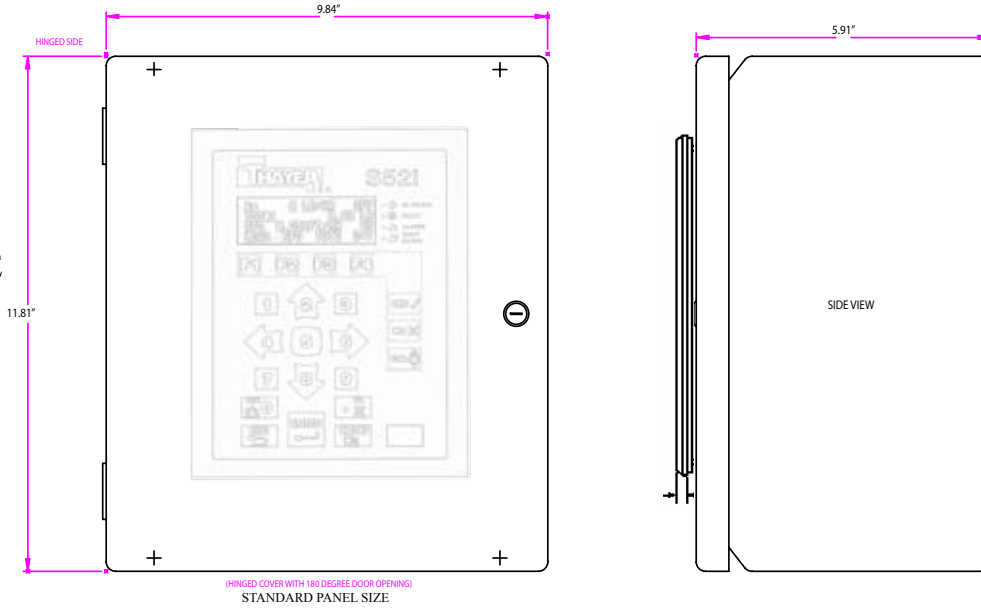
The three user configurable digital outputs are provided to allow the user to remotely monitor the operation of the feeder. Each output is independently programmed and asserted. More than one output may be assigned the same function if needed.

One user configurable analog output (4 – 20 mA, fixed) is available.

PANEL MOUNT



ENCLOSURE MOUNT



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MADE IN USA