



# MBS w/ GSE 350

Installation & Setup Guide

GSE 350 Digital Indicator Panel

Columbia Machine, Inc.

# Selection Screen



## View Installation Procedure

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**Parameters Map Details**

## View Calibration Procedure

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**Error Messages**

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# Installation: Typical Load Cell Color Code & Summing Box Board Layout

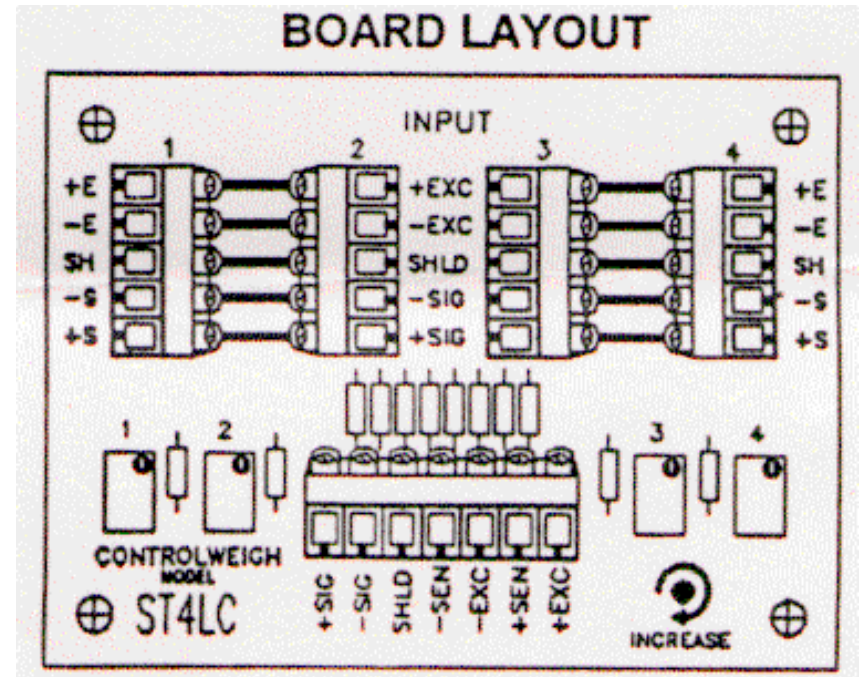


## TYPICAL LOAD CELL COLOR CODES

### WIRING FOR SUMMING CARD INPUTS

<u>TYPE</u>	<u>SHLD</u>	<u>+EXC</u>	<u>-EXC</u>	<u>+SIG</u>	<u>-SIG</u>
Beowulf	SHLD	GREEN	BLACK	WHITE	RED
BLH	SHLD	GREEN	BLACK	WHITE	RED
Cardinal	SHLD	GREEN	BLACK	WHITE	RED
Electroscale	SHLD	RED	BLACK	GREEN	WHITE
HBM	SHLD	GREEN	BLACK	WHITE	RED
Interface	SHLD	RED	BLACK	GREEN	WHITE
National	SHLD	GREEN	BLACK	WHITE	RED
NCI	SHLD	RED & YEL	BLK & BLU	WHITE	GREEN
Revere	SHLD	GREEN	BLACK	WHITE	RED
Sensortronics	SHLD	RED	BLACK	GREEN	WHITE
Tedea	SHLD	GRN & BLU	BLK & BRN	RED	WHITE
Toledo	SHLD	GREEN	BLACK	WHITE	RED
Tranducer	SHLD	RED	BLACK	GREEN	WHITE
Weightronix	WHT/ORN	GREEN	BLACK	WHITE	RED

(Note: Verify Load Cell color codes with manufacturer.)

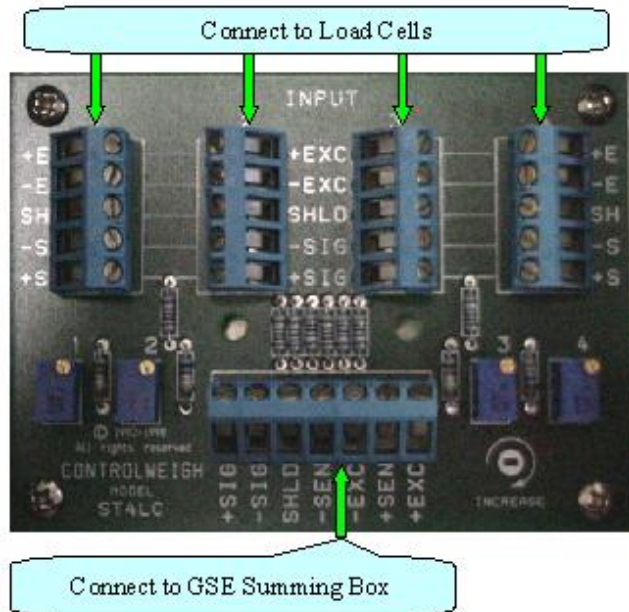
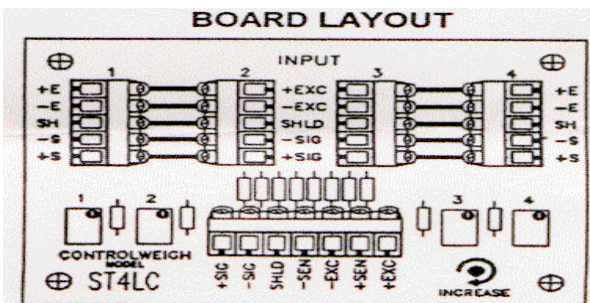


# Installation: Load Cell to Summing Box



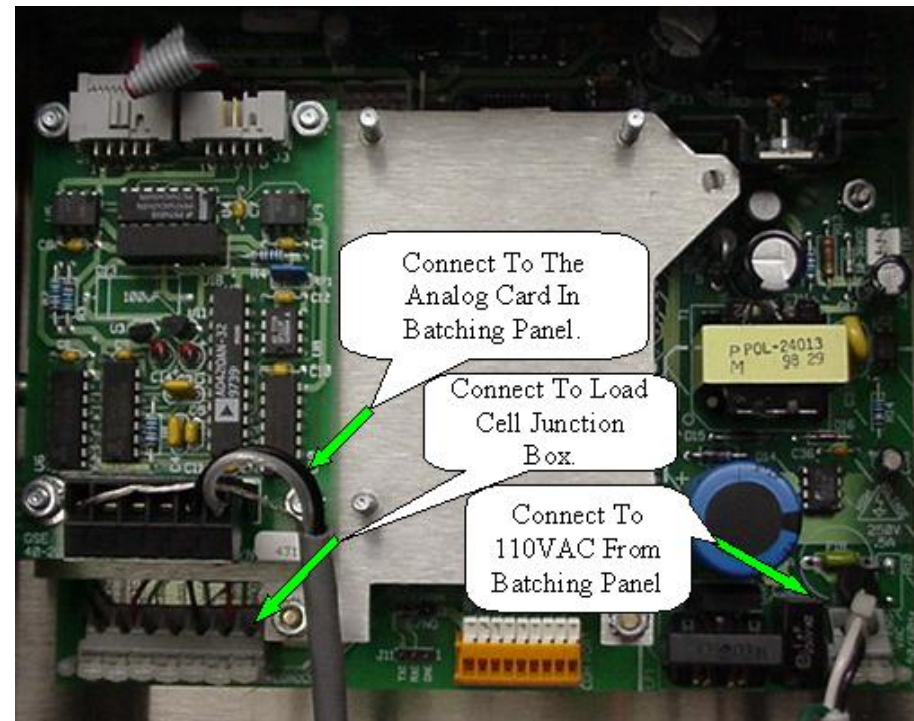
## Load Cell Summing Junction Box

## ⌘ Installation:



1. Connect all load cell cable to the load cell Summing junction box.

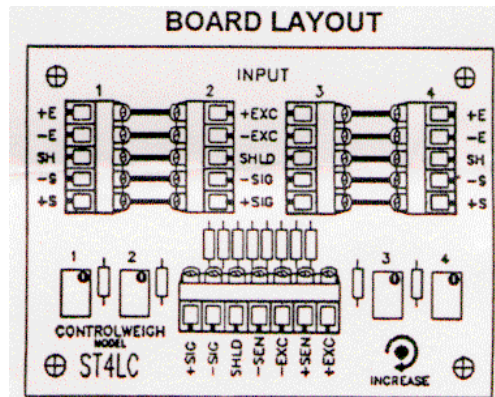
- ☒ + Excitation
- ☒ - Excitation
- ☒ Shield
- ☒ + Signal
- ☒ - Signal



# Installation: Load Cell Summing Box to GSE 350 Digital Indicator Panel



## Load Cell Summing Junction Box



## GSE 350 Digital Indicator Panel



## ⌘ INSTALLATION

2. When using four (4) conductor cable,

- ☒ (+Excitation) must be connected together with (+Sense)
- ☒ (-Excitation) must be connected together with (-Sense)

3. Connect the shielded cable between the load cell summing Junction box and the GSE 350 indicator panel

- ☒ +Excitation
- ☒ -Excitation
- ☒ +Signal
- ☒ -Signal
- ☒ +Sense (when using six (6) conductor cable)
- ☒ -Sense (when using six (6) conductor cable)
- ☒ Shield

# Installation: GSE 350 Digital Indicator Panel to MBS Control Panel



## GSE 350 Digital Indicator Panel



## MBS Control Panel



### ⌘ Installation

4. Connect the shielded cable between the GSE 350 indicator panel  
And the control panel (analog input module).

### ⌘ For Aggregate by weigh:

#### GSE350

- Pin 1 - Earth Ground (Shielded)
- Pin 5 - Isolated Gnd
- Pin 6 - 4-20mA






### ⌘ For Cement by weigh:

#### GSE350

- Pin 1 - Earth Ground (Shielded)
- Pin 5 - Isolated Gnd
- Pin 6 - 4-20mA









# Keyboard Functions: GSE 350 Configuration



Key Press	Weigh Mode	Count Mode	Setup Mode
<b>[ZERO / CLR]</b> 	Performs a gross zero function and/or clears an entry in progress.	Performs a quantity zero function and/or clears an entry in progress.	Exits the setup mode and/or answers "NO" to query prompts and/or clears an entry in progress.
<b>[PRINT]</b> 	Performs a print function and/or 'scrolls' through digits during data entry.	Performs a print function and/or 'scrolls' through digits during data entry.	'Scrolls' through digits during data entry.
<b>[UNITS]</b> 	Toggles between 'lb' and 'kg' and/or advances cursor to next entry position.	Toggles through standard sample sizes and/or begins a new sample entry.	Advances cursor to next entry position and/or recycles prompts.
<b>[TARE]</b> 	Performs an auto-tare function (if enabled) and/or accepts an entry in progress.	Performs an auto-tare function and requests a piece sample and/or accepts a piece entry in progress.	Accepts an entry in progress and/or 'scrolls' through parameter sub-set selections and/or answers 'YES' to query prompts.
<b>[SELECT / ON]</b> 	Toggles between display modes and/or restores power to the indicator (if auto-shutoff enabled).	Toggles between display modes and/or restores power to the indicator (if auto-shutoff enabled).	Advances to the next setup parameter.

# Keyboard Functions: GSE 350 Configuration



Key Press	Weigh Mode	Count Mode	Setup Mode
<p><b>[ZERO] + [SELECT]</b></p>  	Access setup mode.	Access setup mode.	No function.
<p><b>[ZERO] + [TARE]</b></p>  	Absolute clear - clears an entry in progress and/or clears the value of a specific parameter.	No function.	Clears any entry in progress.
<p><b>[ZERO] + [PRINT]</b></p>  	Backspace – erases the right-most digit during data entry.	Backspace – erases the right-most digit during sample entry.	Backspace – erases the right-most digit during data entry.
<p><b>[PRINT] + [UNITS]</b></p>  	Reverse character scroll during data entry.	Reverse character scroll during sample entry.	Reverse character scroll during data entry.

[Click Here to return to Selection Screen](#)






# Setup & Navigating: GSE 350 Configuration



## 350 Series Digital Indicator



### ⌘ GSE 350 Configuration:

[ZERO]  [PRINT]  [UNITS]  [TARE]  [SELECT] 

### ⌘ Entering the Setup Mode:

<u>ACTION</u>	<u>DISPLAY</u>
(Weigh Mode)	0.00
Press [ZERO] + [SELECT]	Setup ~ Enter Code
Press [SELECT]	S
Press [ZERO]	SZ
Press [PRINT]	SZP
Press [UNITS]	SZPU
Press [TARE]	Chgs ~ Poss!
	P110._ _ ~ F.S.=~100

Note: These keystrokes must be made within 5 seconds, or the indicator will return to the Weigh Mode.

# Setup & Navigating: GSE 350 Configuration



## 350 Series Digital Indicator



### ⌘ GSE 350 Configuration:

[ZERO]  [PRINT]  [UNITS]  [TARE]  [SELECT] 

### ⌘ To advance to the next parameter:

<u>ACTION</u>	<u>DISPLAY</u>
Press [SELECT]	P110.__ ~ F.S.=~100
Press [SELECT]	P111.09 ~ 1Grad ~ 0.01
Press [SELECT]	P112.05 ~ Ztrac ~ 0.5 d
Continue pressing [SELECT] to advance through all setup parameters.	

### ⌘ Access Setup in a view-only mode (no changes will be permitted):

<u>ACTION</u>	<u>DISPLAY</u>
(Weigh Mode)	0.00
Press [ZERO] + [SELECT]	Setup ~ Enter Code
Press [TARE]	Chgs ~ Poss!
	P110.__ ~ F.S.=~100

# Setup & Navigating: GSE 350 Configuration



## ⌘ Exit Setup mode and SAVE changes:

<u>ACTION</u>	<u>DISPLAY</u>
Press [ZERO] to begin exiting Setup Mode	P110._ _ ~ F.S.==~100 <b>Enter~=<i>CAL!</i></b>
Press [CLR] to bypass Calibration Mode	<b>Enter~=<i>Store</i></b>
Press [Enter] to save setup changes	<b>Enter~=<i>End</i></b>
Press [Enter] to complete exit	<b>0.00</b>

## ⌘ Exit Setup mode without saving changes:

<u>ACTION</u>	<u>DISPLAY</u>
Press [ZERO] to begin exiting Setup Mode	P110._ _ ~ F.S.==~100 <b>Enter~=<i>CAL!</i></b>
Press [CLR] to bypass Calibration Mode	<b>Enter~=<i>Store</i></b>
Press [CLR] to exit <b>without</b> saving changes	<b>Enter~=<i>Undo</i></b>
Press [Enter] to undo changes	<b>Enter~=<i>End</i></b>
Press [Enter] to complete exit	<b>0.00</b>

# Setup & Navigating: GSE 350 Configuration









## 350 Series Digital Indicator



### ⌘ Key-in Parameters:

For Example: Parameter 110 is a Key-In parameter that holds the full scale value for the load sensing device. Although the full scale range is limited from .01 to 999,999, any value in between may be keyed in.

To setup a full scale value of 250 lbs., perform the following steps from the setup mode:

ACTION	DISPLAY
Press <b>P110 [SELECT]</b>	<i>P110._ _ ~ F.S.=~100</i>
Press  four times to select first digit	<b>2</b>
Press  to advance to next digit	<b>2.</b>
Press  six times to select next digit	<b>25</b>
Press  to advance to next digit	<b>25.</b>
Press  once to select next digit	<b>250</b>
Press  to enter value	<i>P110._ _ ~ F.S.=~250</i>

[Click Here to return to Selection Screen](#)

# Parameters/Calibration Map: GSE 350 Configuration



## Detail Description

Parameter Selection Number	Display Name	Default Value	Columbia Setting	Valid Range/Choices	Parameter Description	Ref Page in Manual Ver 1.0
P110.--	<i>F.S. =</i>	100.00	<b>100.00</b>	.01-999,999 (Keyed In)	Full Scale Value	23
P111.__	<i>1Grad</i>	.01	<b>1.0</b>	.00001-500 (24 Selections)	Full Scale Count By	23
P112.__	<i>Ztrac</i>	0.5d	<b>Off</b>	Off-20.0d (200 Selections)	Zero Track Aperture Setting	23
P114.__	<i>Stabl</i>	1.0d	<b>2.0d</b>	Off-20.0d (200 Selections)	Stability Window	23
P116.__	<i>Filtr</i>	1 Sec	<b>2 Sec</b>	.065-8.00 Sec (8 Selections)	Filter Setting	23
P117.__	<i>Rate</i>	0.1 S	<b>0.1 S</b>	-	-	-
P118.__	<i>Zrang</i>	100%	<b>2. P</b>	.01-100% (13 Selections)	Zero Button Range	24
P150.00	<i>Units</i>	lb	<b>lb</b>	lb/kg (Toggle)	Default (Calibration) Units	24
P151.01	<i>Unbut</i>	Enable	<b>Enable</b>	Enable/Disable (Toggle)	Units Button	24
P161.00	<i>TarSa</i>	Disable	<b>Disable</b>	Enable/Disable (Toggle)	Tare Save	24
P166.01	<i>AutoT</i>	Enable	<b>Disable</b>	Enable/Disable (Toggle)	Auto Tare	24
P169.00	<i>AtClr</i>	Disable	<b>Disable</b>	Enable/Disable (Toggle)	Auto Tare Clear	24

Maximum Weight Enter during Calibration

Ref. Key-in procedure to enter Setting

No change to setting necessary

To change setting: Press **[TARE]** button to scroll through all selection or using the key-in procedure

# Parameters/Calibration Map: GSE 350 Configuration



## Detail Description

Parameter Selection Number	Display Name	Default Value	Columbia Setting	Valid Range/Choices	Parameter Description	Ref Page in Manual Ver 1.0
P171.00	<i>AnAlg</i>	Disable	<b>Enable</b>	Enable/Disable (Toggle)	Analog Output Option	25
P172.00	<i>AnPar</i>	Gross	<b>Gross</b>	-	Analog Output Option	29
P173.__	<i>AnIFS</i>	0.000	<b>0.000</b>	-	Analog Output Option	29
P174.__	<i>AnOff</i>	0.000	<b>0.000</b>	-	Analog Output Option	29
P175.10	<i>AnRng</i>	10.000	<b>10.000</b>	-	Analog Output Option	29
P176.01	<i>AnRst</i>	No Change	<b>No Change</b>	-	Analog Output Option	29
P177.00	<i>AType</i>	0 – 10 V	<b>4 – 20 mA</b>	-	Analog Output Option	29
P179.00	<i>Count</i>	Disable	<b>Disable</b>	Enable/Disable (Toggle)	Counting Functions	25
P200.00	<i>Baud</i>	9600	<b>9600</b>	150-9600 (7 Selections)	Comm Baud Rate	25
P201.01	<i>Data</i>	8 Bits	<b>8 Bits</b>	7-8 Bits (2 Selections)	Comm Data Bits	25
P202.00	<i>Par'y</i>	None	<b>None</b>	None-Odd (3 Selections)	Comm Parity	25
P203.00	<i>Stop</i>	1 Bit	<b>1 Bit</b>	1-2 Bits (2 Selections)	Comm Stop Bits	26

No change to setting necessary

To change setting:  
Press **[TARE]** button to scroll through all selection or using the key-in procedure

# Parameters/Calibration Map: GSE 350 Configuration



Parameter Selection Number	Display Name	Default Value	Columbia Setting	Valid Range/Choices	Parameter Description	Ref Page in Manual Ver 1.0
P204.02	<i>HndSh</i>	Soft	<b>Soft</b>	None-Both (4 Selections)	Comm Handshake	26
P210.01	<i>Send</i>	Press	<b>Press</b>	Off-Cycle (4 Selections)	Comm Transmit	26
P212.01	<i>Stabl</i>	Delay	<b>Delay</b>	Off-Delay (Toggle)	Comm Motion	26
P213.01	<i>TrTyp</i>	--1--	<b>--1--</b>	0-11 (Selection)	Print Transmission	26
P410.--	<i>Euro</i>	Disable	<b>Disable</b>	Enable/Disable (Toggle)	OIML Enforce	28
P420.01	<i>Dsply</i>	On	<b>On</b>	Off-Auto (3 Selections)	Display Function	28
P440.00	<i>NTEP</i>	Disable	<b>Disable</b>	Enable/Disable (Toggle)	NTEP Enforce	28
P800.00	<i>R-But</i>	None	<b>None</b>	None-Setpoint (5 Selections)	Remote Button Function	28
P1000.--	<i>Cust. Trans</i>	--	<b>--</b>	--	Custom Transmit	29
P5100.00	<i>SetPt</i>	None	<b>None</b>	None-Indep (8 Selections)	Setpoint Operation	29

No change to setting necessary

To change setting:  
Press **[TARE]** button to scroll through all selection or using the key-in procedure

[Click Here to return to Selection Screen](#)

# Parameter Map Details: GSE 350 Configuration



## **P110 Full Scale Value (Key in)**

Denotes the full scale capacity of the connected load sensing device. This value should not exceed the rated capacity of the weighing device.

## **P111 Division Size (Selection)**

Indicates the count-by and decimal point. Pressing **[ZERO] + [TARE]** will automatically select the choice closest to 10,000 divisions without exceeding 10,000 divisions.

## **P112 Zero Track Aperture (Selection)**

Set in terms of number of divisions. Zero tracking eliminates small weight deviations at or near zero. Weight deviations within the selected window that have been stable for more than 1 second are tracked off. This maintains a gross or net zero condition.

The sum of weight values zeroed with auto zero tracking and **[ZERO]** can not exceed the allowable zero range (**P118**).

Truck scales commonly use zero tracking to compensate for snow fall. To determine the proper setting in a counting application, divide the weight of the smallest product counted by the division size (**P111**). Zero Track should be set to 0 (off) for most setpoint filling operations. This prevents tracking off any product trickle at the start of a fill process.

## **P114 Stability (Selection)**

Stability is defined as weight fluctuations within an aperture that can be regarded as being a stable weight. Deviations outside of this aperture are considered motion, and the motion annunciator on the front panel will light accordingly. Once the scale settles within the stability aperture, the indicator will wait 1 second before the indicator is considered stable.

Print operations configured as motion delayed (**P114**) will not send the specified data until the weight reflects a stable reading as designated by this setting. Certain setpoint operations are also considered motion delayed and will not change states until a no-motion condition exists. See individual setpoint operations (*section 3.9*) for information on how motion is handled.



# Parameter Map Details: GSE 350 Configuration



## **P116 Filter (Selection)**

Sets the indicator response time in terms of seconds. Filtering determines how quickly the indicator will respond to changing input signals. A low filter setting speeds the response, a higher filter setting will 'dampen' the response.

Filtering is used to filter out weight fluctuations caused by outside sources, such as vibrations or air currents.

## **P118 Zero Range (Selection)**

Specifies how many divisions can be zeroed in terms of a percentage of full scale (**P110**). The sum of weight values zeroed through the **[ZERO]** key and auto zero tracking can not exceed this range.

A zero range of 5% is commonly used with large tank scales to avoid accidental zeroing of a full or partially full tank.

## **P150 Units (Toggle)**

Set default units to 'lb' or 'kg'. The indicator must use the default units during calibration procedures (see Section 4). The default units are the displayed units upon indicator power-up.

## **P151 Units Button (Toggle)**

When enabled, this parameter will allow **[UNITS]** to toggle the units between 'lb' and 'kg' (**1000g**). When disabled, the indicator will show only the calibration units as determined by **P150**.

## **P161 Tare Save (Toggle)**

Enabling Tare Save allows the indicator to retain the tare value in the event of power loss. The correct net weight is restored upon power-up.

# Parameter Map Details: GSE 350 Configuration



## **P166 Auto Tare (Toggle)**

When enabled, pressing **[TARE]** will wait for a no-motion condition and bring the scale to a net zero reading. Disabling will prevent keypad tare operations.

Note that if a setpoint activation method is set to **[TARE]**, disabling Auto Tare will also disable the activation of that setpoint

## **P169 Auto Tare Clear (Toggle)**

Enabling this feature will cause the current tare value to be cleared to zero every time the indicator stabilizes within  $\pm 5$  graduations of gross zero

## **P171 Analog (Toggle)**

Enable or disable the optional analog output module. *(See section 3.6 for all parameters associated with the Analog Output Module).*

## **P179 Count (Toggle)**

When enabled, the quantity mode becomes accessible via the **[SELECT]** key. The quantity mode is identified by the illumination of the QTY annunciator. See individual setpoint setups (*section 3.9*) for using quantity as a basis for setpoint operations.

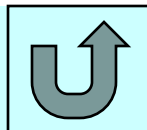
# Parameter Map Details: GSE 350 Configuration



**Table 3.6-1: Analog Output Parameters**

Parameter Setting	Displayed Name	Description	Type/Choices (*=Default)
P171.00	<i>AnAlg</i>	Enable analog option.	Disbl*, Enabl
P172.00	<i>AnPar</i>	Parameter that analog signal corresponds to.	Gross*, Net, Qty (If counting is enabled)
P173.--	<i>AnIFS</i>	Full scale value at which P172 selection yields an output of 10 volts. If set to 0, uses P110 setting.	Numeric Entry: 0* to ±1,000,000
P174.--	<i>AnOff</i>	Offset value which yields a 0 volt output	Numeric Entry: 0* to ±1,000,000
P175.10	<i>AnRng</i>	Range Value (1-10) which specifies the max value of analog output-entered in terms of voltage.	Numeric Entry:  0 to 10*
P176.01	<i>AnRst</i>	Reset state-Specifies analog signal level when 350 enters setup mode.	10 v (Max Output) 0 volts (Min Output) No Change *
P177.00	<i>AType</i>	Specifies output type: Voltage or Current	0-10 volts*, 0-20mA, 4-20mA

Return to  
Parameter  
Map Screen



**Click Here to return to  
Selection Screen**

# Calibration Procedure: GSE 350 Digital Indicator Panel



## ⌘ 1. Entering the Setup Mode:

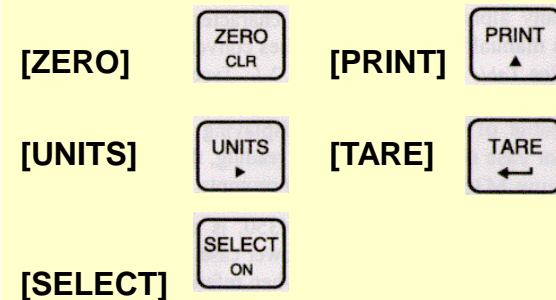
<u>ACTION</u>	<u>DISPLAY</u>
(Weigh Mode)	0.00
Press [ZERO] + [SELECT]	Setup ~ Enter Code
Press [SELECT]	S
Press [ZERO]	SZ
Press [PRINT]	SZP
Press [UNITS]	SZPU
Press [TARE]	Chgs ~ Poss!
	F.S.=~100.00

## ⌘ 2. Enter Full Scale value:

Example: To setup a full scale value of 250 lbs., perform the following steps from the setup mode

<u>ACTION</u>	<u>DISPLAY</u>
	F.S.=~100
Press [PRINT] four times to select first digit	2
Press [UNITS] to advance to next digit	2.
Press [PRINT] six times to select next digit	25
Press [UNITS] to advance to next digit	25.
Press [PRINT] once to select next digit	250
Press [TARE] to enter value	F.S.=~250.00

## ⌘ Keyboard label:



Note: These keystrokes must be made within 5 seconds, or the indicator will return to the Weigh Mode.

### **P110 Full Scale Value (Key in)**

Denotes the full scale capacity of the connected load sensing device. This value should not exceed the rated capacity of the weighing device.

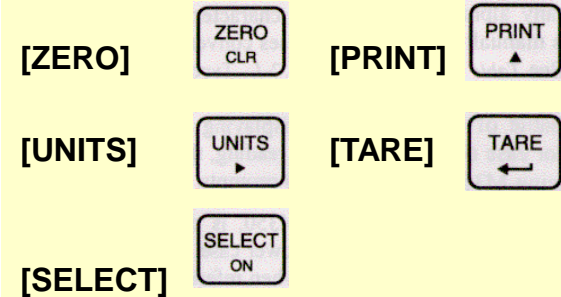
# Calibration Procedure: GSE 350 Digital Indicator Panel



## ⌘ 3. Performing Calibration:

<u>ACTION</u>	<u>DISPLAY</u>
Press [ZERO] button	<i>F.S.=~250.00</i>
Press [TARE] to enter calibration	<i>Enter~=<b>CAL!</b></i>
Press [TARE] to accept <i>First~Zero</i>	<i>First~Zero?~0.02</i>
Enter a <i>known weight</i> that will be use for calibration using entry keys. (5.00)	<i>Enter~Load~0.00</i>
Press [PRINT] seven times to select first digit	<i>5</i>
Press [UNITS] to advance to next digit	<i>5.</i>
Press [UNITS] to advance to next digit	<i>5.0</i>
Press [UNITS] to advance to next digit	<i>5.00</i>
Press [TARE] to enter value	<i>Add~Load~0.00</i>
Place a <i>known weight</i> on the scale	<i>Add~Load~5.05</i>
Press [TARE] to enter value	<i>CAL~Good?~5.00</i>
Press [TARE] to accept value	<i>Enter~=<b>Stor</b></i>
Press [TARE] to store calibration value	<i>Chgs ~ Stor!</i>
Press [TARE] to end calibration	<i>Enter~=<b>End</b></i>
	<i>5.03</i>

## ⌘ Keyboard label:



Note: If the display value is similar to the value enter using entry keys then the GSE will display **CAL~Good?** Follow steps to accept calibration.

Note: If the display value is quite different to the value enter using entry keys then the GSE will display **RECAL~???** Press [TARE] to recalibrate. Follow steps to perform calibration.

[Click Here to return to Selection Screen](#)

# Error Messages: GSE 350 Troubleshooting



Messages	Explanation
<b>Code02</b>	Under Load. Input signal is less than negative full scale. Check load cell wiring. Verify correct capacity selection at P110.
<b>Code03</b>	Over Load. Input signal is greater than positive full scale. Use same checks as “under load” above.
<b>Code 05</b>	Zero attempted beyond that allowed by P118.
<b>Code 08</b>	Input signal greatly exceeds the valid range. Check the load cell connection.
<b>Chec~Conn.</b>	Input signal greatly exceeds the valid range. Check the load cell connection.
<b>Funct~Disbl</b>	Attempted to perform a function disabled in the setup mode.
<b>Zero~Error</b>	Zero attempted beyond that allowed by P118.
<b>Tare~Error</b>	Negative tare attempted when disabled (P440 enabled).
<b>Tare~GT FS</b>	Tare value greater than full-scale capacity.
<b>Delay</b>	Indicates that a motion delay is in effect (zero, tare, etc.).
<b>Delay~Abort</b>	Acknowledges that a motion delayed function was aborted.
<b>Print~Abort</b>	Acknowledges that a motion delayed print request was aborted.
<b>Dsply~OLoad</b>	Number to be displayed requires more than six digits.
<b>Add~Load!</b>	If displayed after performing a count sample, this message indicates that a larger sample size is required.
<b>Out of~Range</b>	Attempted to enter a value beyond the allowable range.
<b>SPtxx~Error</b>	A conflict occurred with a setpoint value entry (example: target entry is less than preact). The digits ‘xx’ represent the last two digits of the setpoint parameter in error (example: <b>SPt 5~Error</b> indicates a conflict at P5105, preact 1).

# Error Messages: GSE 350 Troubleshooting



Messages	Explanation
<b><i>Bad~Code!</i></b>	An incorrect access code was entered.
<b><i>Unit~Seald</i></b>	Access to the setup or calibration mode was denied. Check the internal "YES/NO" program jumper.
<b><i>Entry~Error</i></b>	An invalid entry was made.
<b><i>Need~Entry</i></b>	A numeric value was required before pressing [ Enter ].
<b><i>Out of~Range</i></b>	The entered value exceeded the allowable range.
<b><i>Can't~Set!</i></b>	Attempt to change a parameter that does not allow an entry.
<b><i>ResGT~260E3</i></b>	The number of divisions exceeds 260000 (see P110, P111).
<b><i>ResGT~25E3</i></b>	The number of divisions exceeds 25000 (see P110, P111).
<b><i>ResGT~100!</i></b>	The number of divisions is less than 100 (see P110, P111).
<b><i>ResGT~1 !!</i></b>	The number of divisions is less than 1 (see P110, P111).
<b><i>SPTxx~Error</i></b>	A conflict occurred with a setpoint value entry (example: target entry is less than preact). The digits ' <b>xx</b> ' represent the last two digits of the setpoint parameter in error (example: <b>SPT5~Error</b> indicates a conflict P5105, preact 1).
<b><i>Prtcl~Error</i></b>	Existing protocol is invalid. The following is not allowed: P201=7 data bits, P202=no parity, P203=1 stop bit P201=8 data bits, P202=even parity, P203=stop bits P201=8 data bits, P202=odd parity, P203=2 stop bits

# Error Messages: GSE 350 Troubleshooting



Messages	Explanation
<b>Code00</b>	An EEPROM problem was detected during power-up (U2).
<b>A-D~Bad!</b>	Problem with A/D chip detected.
<b>Deflt~A-D</b>	Bad A/D calibration values. Recalibrate A/D (see section 6.4).
<b>Re~Boot!</b>	EEPROM data could not be read. Attempting power-up reset.
<b>Chec~E2</b>	EEPROM data error (U4).
<b>Deflt~Setup</b>	An error occurred when reading setup data from the EEPROM during power-up. All parameters are set to factory default.
<b>E2~Full!</b>	The EEPROM setup exceeds the memory capacity.
<b>NoSpc~Free!</b>	The current setup exceeds the setup RAM capacity.



# Error Messages: GSE 350 Troubleshooting



## CALIBRATION ERRORS

Messages	Explanation
<i>F.S.~TooHi</i>	The entered calibration weight will result in an over-capacity condition at full scale. Verify that the correct full scale value (P110) and calibration weight value is correct.
<i>F.S.~TooLo</i>	The entered calibration weight will result in a full scale input signal that is less than the minimum allowed. Verify that the full scale value (P110) and entered weight value are correct.
<i>Add~Load!</i>	The calibration weight is less than 0.1% of capacity. More weight is required.
<i>ReCal~???</i>	The calibration procedure should be repeated to guarantee accuracy. This prompt will appear when the calibration weight is less than 5% of capacity, or when the A/D coarse gain is adjusted.
<i>Entry~Error</i>	An invalid entry was made.

## COMMUNICATION ERRORS

Messages	Explanation
<i>Par-Er</i>	The selected parity (P202) does not match that of the connected device.
<i>Buf-Er</i>	The receive buffers capacity was exceeded. This indicates a handshaking problem. Check P204 and verify proper communication port connections.
<i>Bit-Er</i>	The stop bit of a received character did not occur when expected. Verify that protocol (P200 – P204) matches that of the connected device.
<i>TrHold</i>	Data transmission is inhibited due to a deasserted handshake. Press <b>[CLR]</b> to abort transmission. Check P204.

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# Information Mode Parameters: GSE 350 Troubleshooting



A series of information parameters are available beginning at P60000. These parameters may be accessed from the setup mode, or from the weigh mode.

As each information parameter is accessed, the parameter number is briefly displayed, followed by the parameter name, and finally the parameter value. To repeat the parameter number and name sequence, press **[UNITS]**. To exit the information mode, press **[ZERO]**.

PARAMETER	NAME	DESCRIPTION
60000	<i>E2Ins</i>	Total amount of EEPROM storage.
60001	<i>E2Fre</i>	Amount of available EEPROM storage.
60100	<i>-GSE--c1998</i>	Copyright statement.
60101	<i>0350P~01001</i>	Firmware revision code.
60102	<i>02-10~1998</i>	Firmware date code.
60200	<i>b sn~10001</i>	Main circuit board serial number.
60201	<i>Audit~Trail Euro~00000</i>	OIML (European) audit train number (see section 5.5.2.1).
60202	<i>i sn~00000</i>	M350 serial number.
60203	<i>Audit~Trail CAL.~00000</i>	Calibration audit trail number (see section 5.5.2.2).
60204	<i>Audit~Trail Setup~00000</i>	Setup audit trail number (see section 5.5.2.3).
61100	<i>Load~Cell 0.00000</i>	Current mV/V output of the load cell.
61101	<i>Cal~Factr 1.00000</i>	Calibration factor for the load cell.

# Information Mode Parameters: GSE 350 Troubleshooting



PARAMETER	NAME	DESCRIPTION
61102	<i>Rezro~Load</i> 0.00000	Amount of weight (in default units) zeroed through use of the [ZERO] key.
61103	<i>Zrtrc~Load</i> 0.00000	Amount of weight (in default units) zeroed by the zero track feature since [ZERO] was last pressed.
61104	<i>CZero~0P</i>	Coarse zero calculated during calibration.
61105	<i>Fine~Zero</i> 1738	Fine zero calculated during calibration.
61106	<i>CGain~50</i>	Coarse gain calculated during calibration.
61107	<i>Fine~Gain</i> 1.00000	Fine gain calculated during calibration.
61110 ↓ 61112	<i>Zero~Adj25</i> 73741 ↓ <i>Zero~Ad100</i> -21813	A/D compensation for coarse zero.
61113 ↓ 61116	<i>Gain~Adj1</i> 0.94306 ↓ <i>Gain~Adj8</i> 0.95804	A/D compensation for coarse gain.
61117 ↓ 61120	<i>AiN1~NrOff</i> -11035 ↓ <i>AiN8~NrOff</i> -14800	A/D non-ratiometric offset compensations.

# Information Mode Parameters: GSE 350 Troubleshooting



PARAMETER	NAME	DESCRIPTION
61121	<i>Vref~NrOff -12739</i>	A/D reference voltage compensation.
62000	<i>Dsply~Test 8.8.8.8.8.8.</i>	Display test. Press [ ] to illuminate all segments. Continue pressing [ ] to cycle through various patterns.
62001	<i>Spt 1~Disbl</i>	Allows setpoint status to be changed by pressing [ ] while viewing this parameter. Requires that setup was entered using the access code.
62002	<i>Spt 2~Disbl</i>	
62003	<i>Spt 3~Disbl</i>	
62004	<i>Analg~0-10v</i>	Allows the analog output to be changed by pressing [ ]. Output will toggle through 0, 25, 50 and 100 percent while viewing this parameter. Requires that setup was entered using the access code (see section 7.5.1).
62005	<i>Analg~0-20A</i>	
62006	<i>Analg~4-20A</i>	
64000	<i>Send~Setup</i>	Transmit all setup information out the communication port.
64100	<i>LnCnt~0</i>	Received setup line count.
64101	<i>ErCnt~0</i>	Received setup error count.
64102	<i>1stEr~None!</i>	Parameters of the first setup receive error.
65001	<i>Deflt~All</i>	Default All. Sets all parameters to factory default settings. Press [ ] to initiate default.
65002	<i>Deflt~CAL</i>	Same as above, except calibration is retained.

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