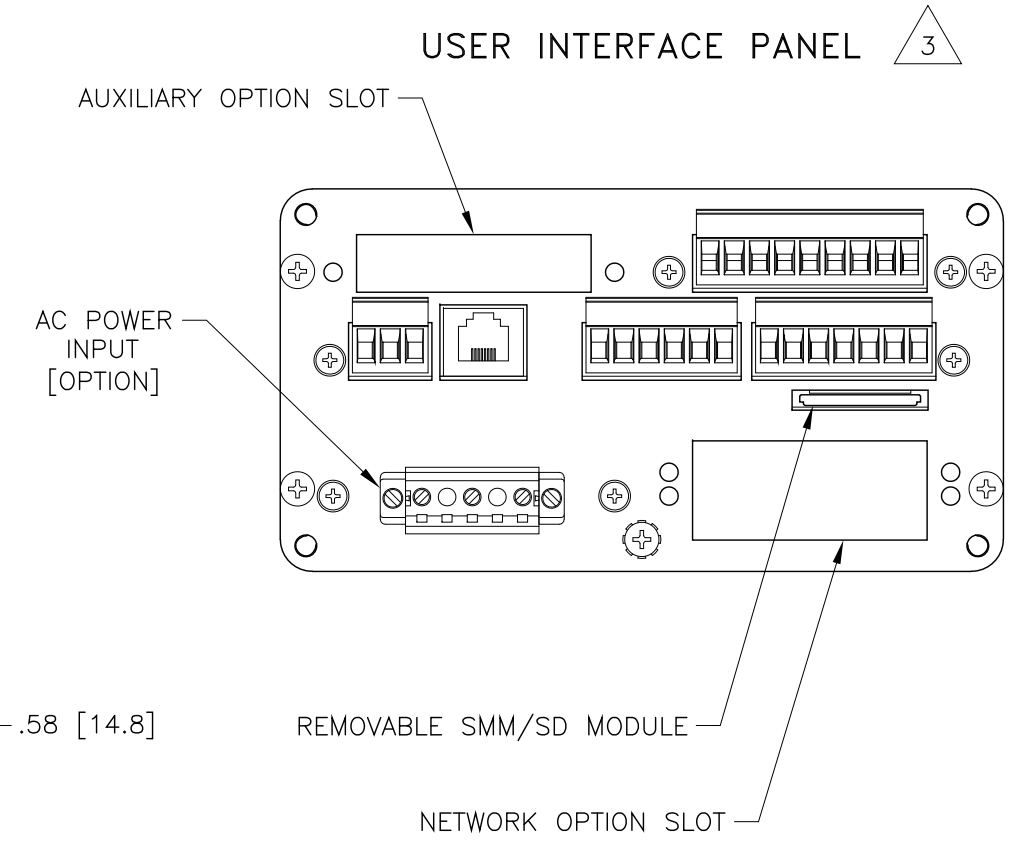
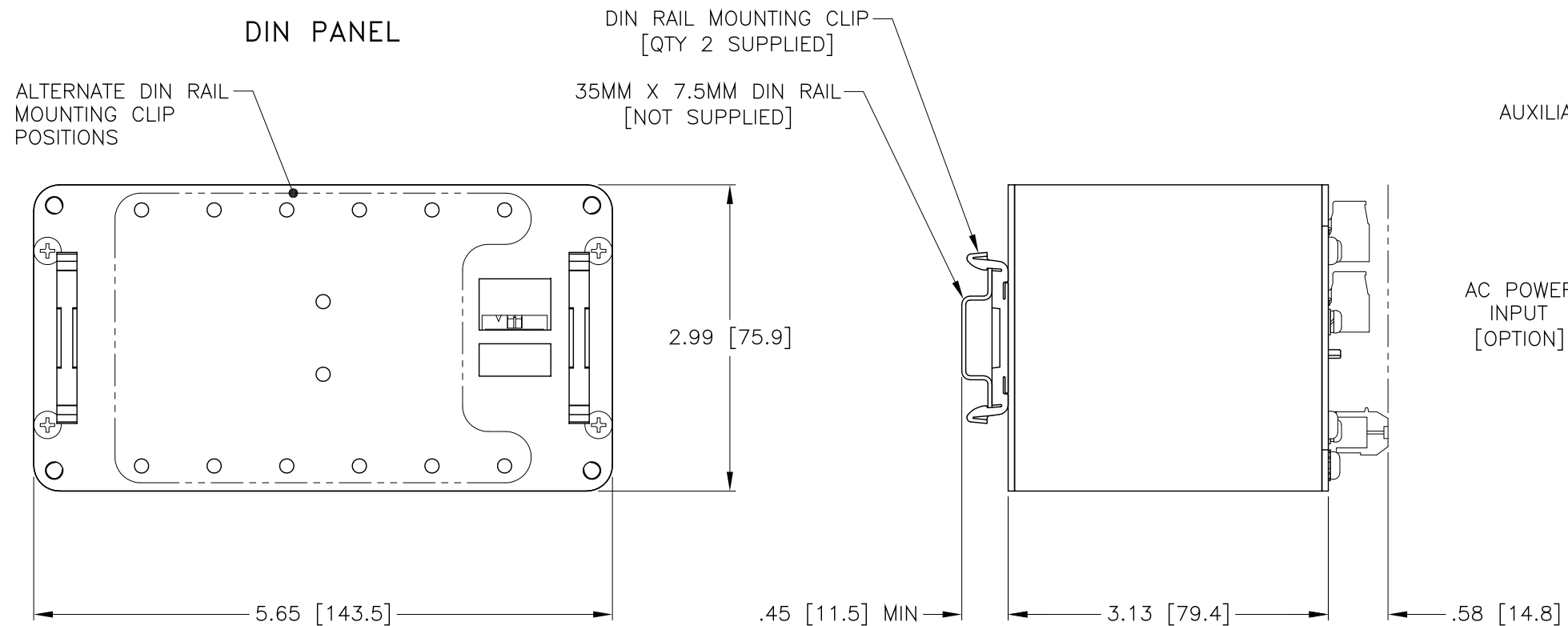


# HI 4050 WEIGHT CONTROLLER CONTROLLER MAIN UNIT

REV.	ECO/DDC	DESCRIPTION	DATE	DRAFT	CHECK	APV'D
A	----	RELEASED FOR PUBLICATION.	02-26-09	V.J.C.	D.H.	V.J.C.
B	10752	REVISED PER ECN.	11-09-09	V.J.C.	D.H.	V.J.C.
C	11139	REVISED PER ECN.	08-23-13	V.J.C.	L.E.G.	V.J.C.
D	11688	REVISED PER ECN.	04-27-15	V.J.C.	L.E.G.	V.J.C.
E	11787	REVISED PER ECN.	01-11-16	V.J.C.	E.B.	V.J.C.
E2	----	ADDED PROFINET COMMUNICATIONS NETWORK OPTION "PFN".	02-10-21	V.J.C.	J.I.	V.J.C.
E3	----	DELETED ALLEN-BRADLEY NETWORK OPTION "RIO".	07-26-22	V.J.C.	J.I.	V.J.C.
F	12145	REVISED PER ECN.	05-24-23	V.J.C.	J.I.	V.J.C.



7. SEE SHEET 5 FOR WALL MOUNT ENCLOSURE INTERNAL COMPONENTS.
6. EXERCISE CAUTION WHEN ADDING OR ENLARGING HOLES IN WALL MOUNT ENCLOSURE. METAL PARTICLES COULD SERIOUSLY DAMAGE ELECTRONICS. COVER ELECTRONICS BEFORE DRILLING OR PUNCHING. WALL MOUNT ENCLOSURE DOOR TO REMAIN FREE OF HOLES.
5. SEE SHEET 4 FOR WALL MOUNT ENCLOSURE WITH DISPLAY DIMENSIONS.
4. SEE SHEET 3 FOR WALL MOUNT ENCLOSURE WITHOUT DISPLAY DIMENSIONS.
3. GENERIC USER INTERFACE PANEL SHOWN ONLY. SEE SHEETS 6 THROUGH 9 FOR USER INTERFACE PANEL CONNECTIONS.
2. SEE SHEET 2 FOR FRONT PANEL DISPLAY DIMENSIONS.
1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INSTALLATION AND WIRING INFORMATION.

## NOTES: UNLESS OTHERWISE SPECIFIED

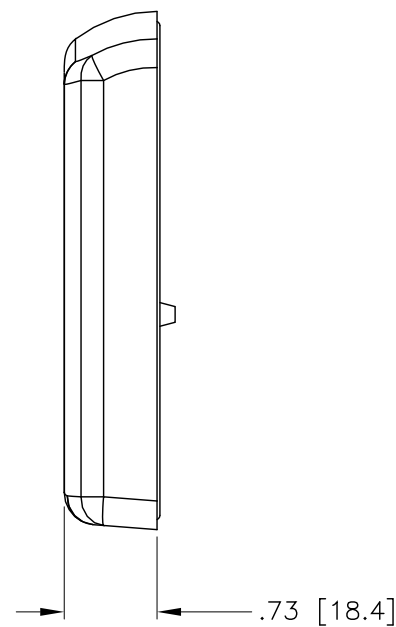
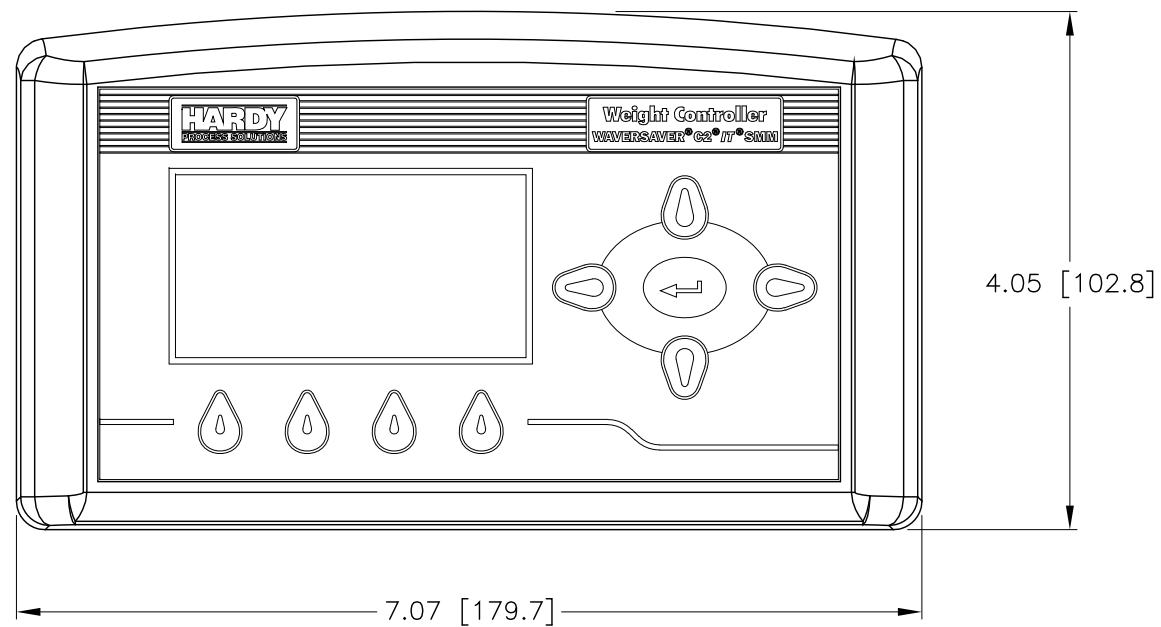
**PROPRIETARY NOTICE**  
 ALL DATA AND INFORMATION CONTAINED IN OR DISCLOSED BY THIS DOCUMENT IS CONFIDENTIAL AND PROPRIETARY INFORMATION OF HARDY PROCESS SOLUTIONS INC. AND ALL RIGHTS THEREIN ARE EXPRESSLY RESERVED. BY ACCEPTING THIS MATERIAL THE RECIPIENT AGREES THAT THIS MATERIAL AND THE INFORMATION CONTAINED THEREIN IS HELD IN CONFIDENCE AND IN TRUST AND SHALL NOT BE USED, COPIED, REPRODUCED IN WHOLE OR IN PART, NOR ITS CONTENTS REVEALED IN ANY MANNER TO OTHERS, EXCEPT TO MEET THE SPECIFIC PURPOSE FOR WHICH IT WAS DELIVERED.

DIMENSIONS = IN [MM]

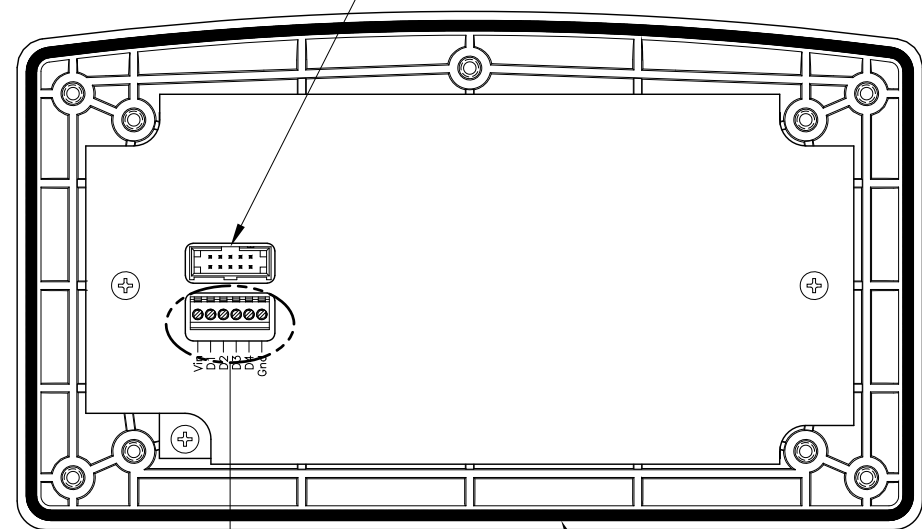
ITEM	QTY	PART NUMBER	DESCRIPTION	COMMENTS
0584-0064 I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES [MM]		CONTRACT NO.		
TOLERANCES ARE: DECIMALS: .XX = N/A .XXX = N/A ANGLES: N/A		APPROVALS		
MATERIAL		DRAWN V. CHULA	DATE 02-26-09	TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER
FINISH		CHECKED D. HOLT	DATE 02-26-09	
DO NOT SCALE DRAWING		APPROVED V. CHULA	DATE 02-26-09	
		ISSUED V. CHULA	DATE 02-26-09	
		PRODUCTION	DATE	
SIZE	FSCM	DRAWING NO.		REV.
D	21316	0584-0064		F
FILE NAME: 584064F1.DWG		SCALE: NONE		SHEET 1 OF 10

# HI 4050 WEIGHT CONTROLLER FRONT PANEL DISPLAY

FRONT

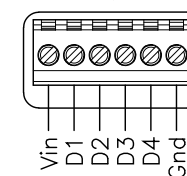


PANEL MOUNT RIBBON CABLE  
INTERFACE CONNECTOR



REAR

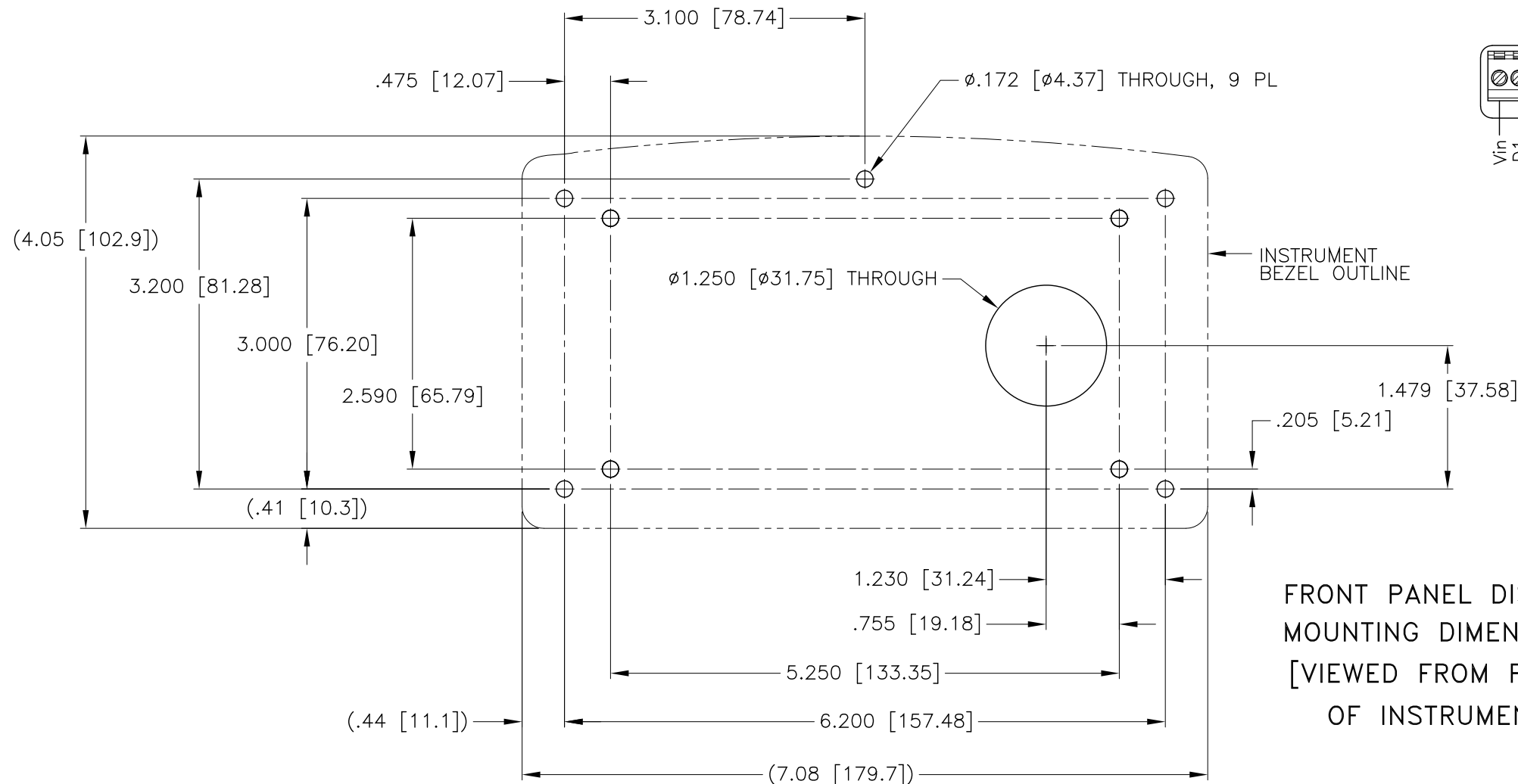
FRONT PANEL SEALING GASKET



FRONT PANEL DISPLAY TERMINAL BLOCK

NOTES:

1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON REMOTE DISPLAY TERMINATIONS.
2. WIRE SIZE: 20 AWG MAXIMUM / 26 AWG MINIMUM. WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.
3. MAXIMUM CABLE LENGTH: 100 FEET [30.48 METERS]
4. SEE SHEET 6 FOR REMOTE DISPLAY WIRE TERMINATIONS TO THE HI 4050 WEIGHT CONTROLLER MAIN UNIT.

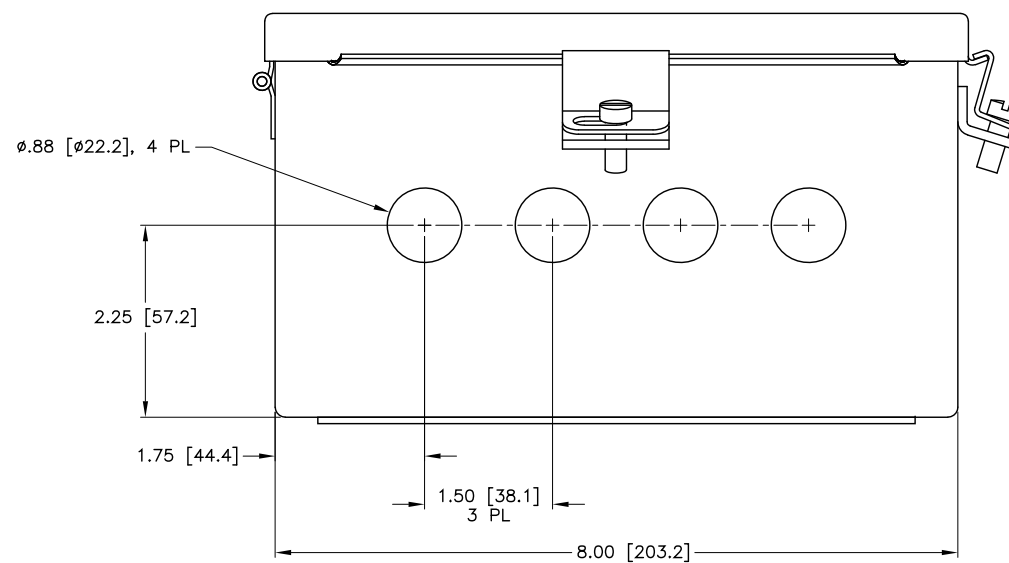
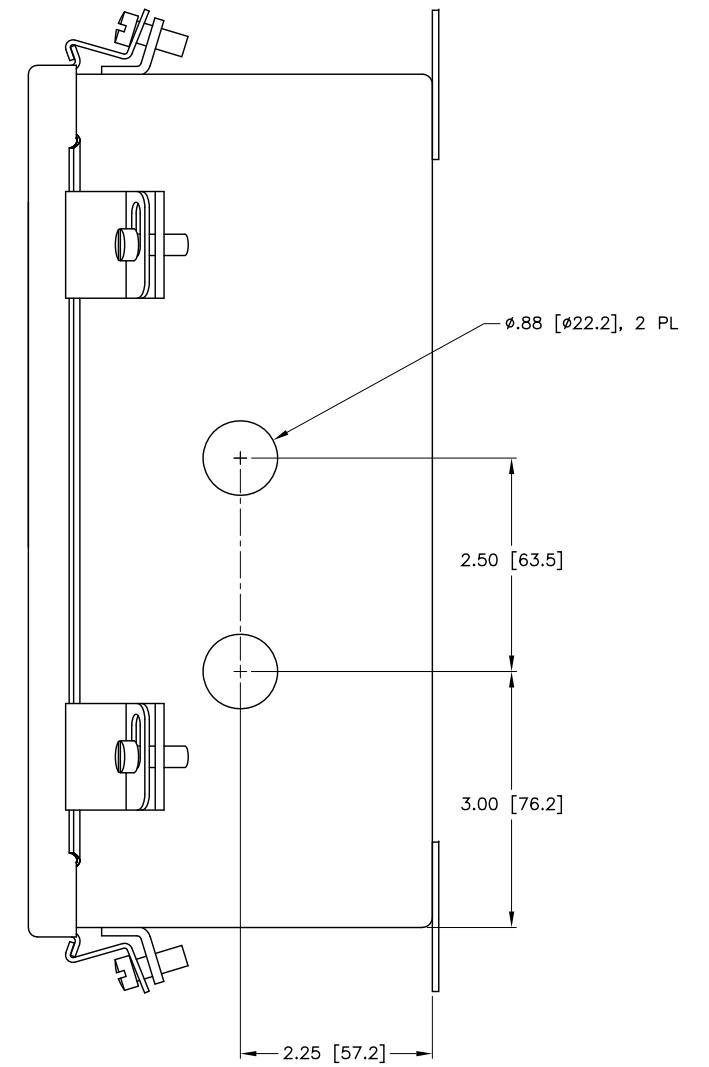
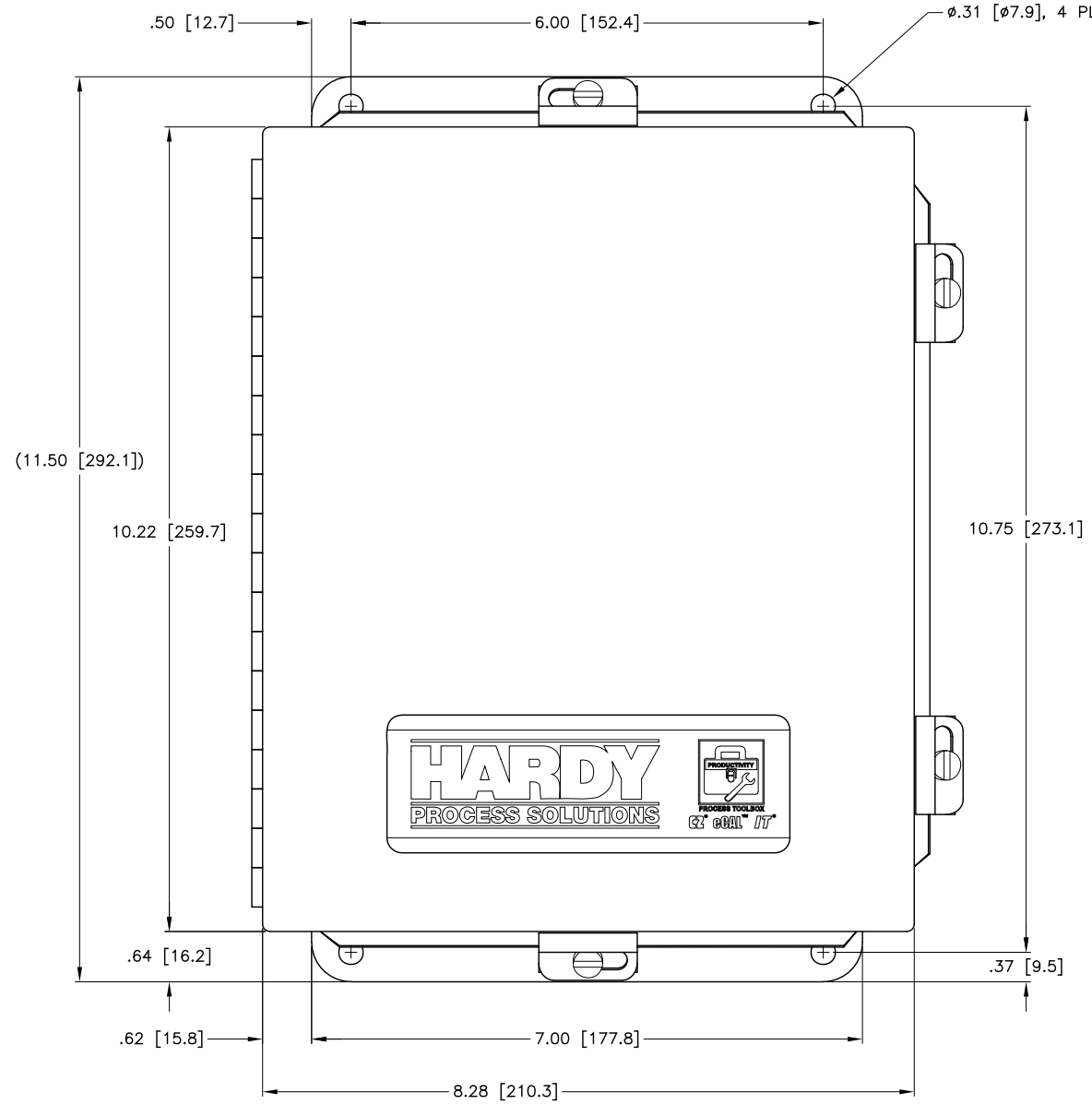
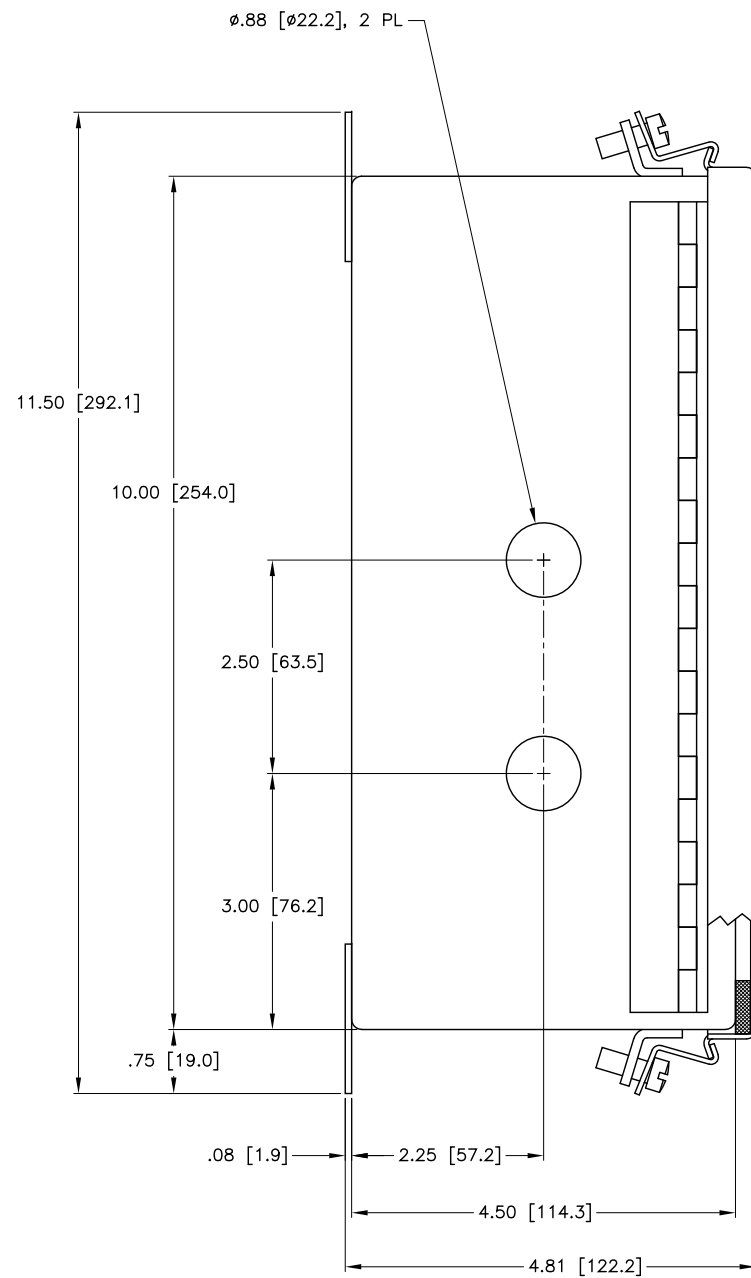


FRONT PANEL DISPLAY  
MOUNTING DIMENSIONS  
[VIEWED FROM FRONT  
OF INSTRUMENT]

DIMENSIONS = IN [MM]

<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 2 OF 10

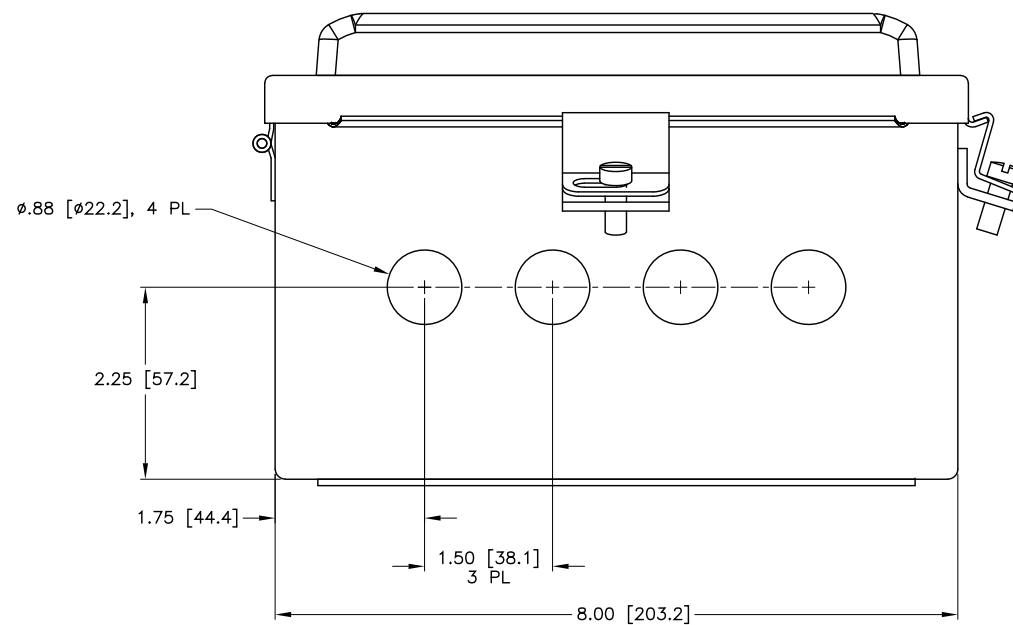
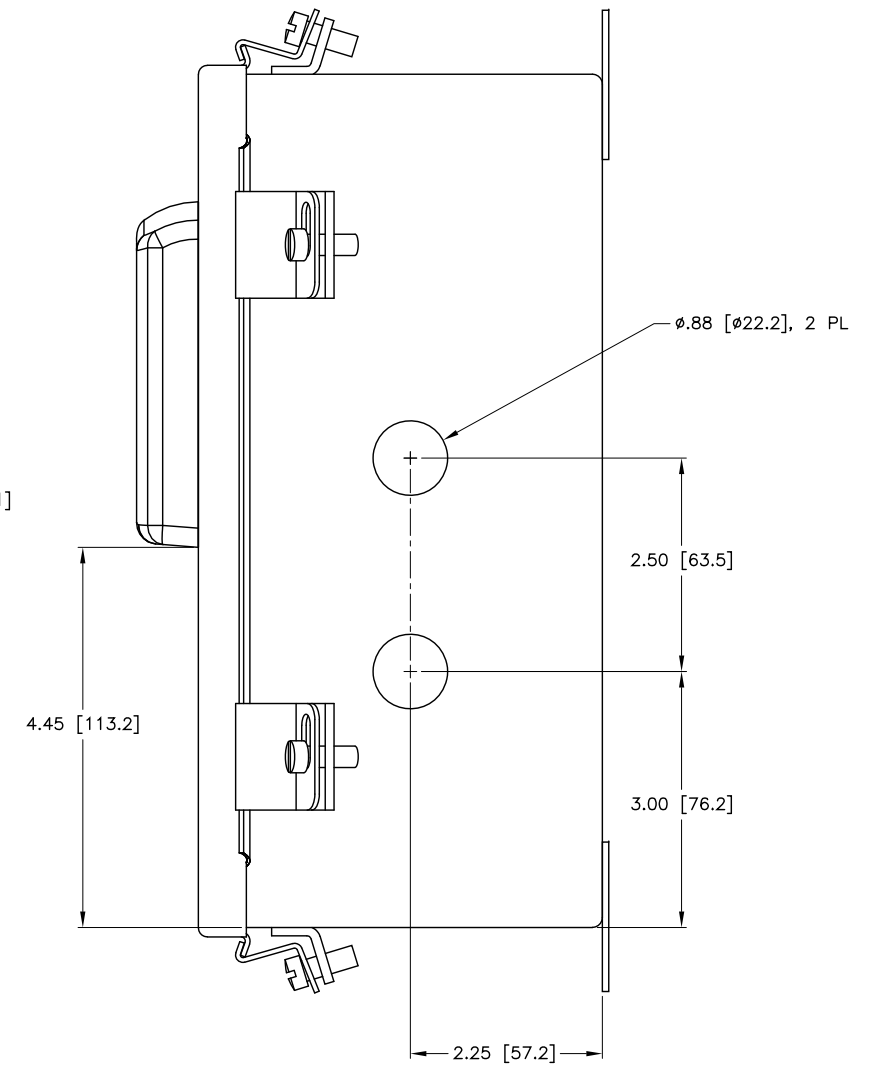
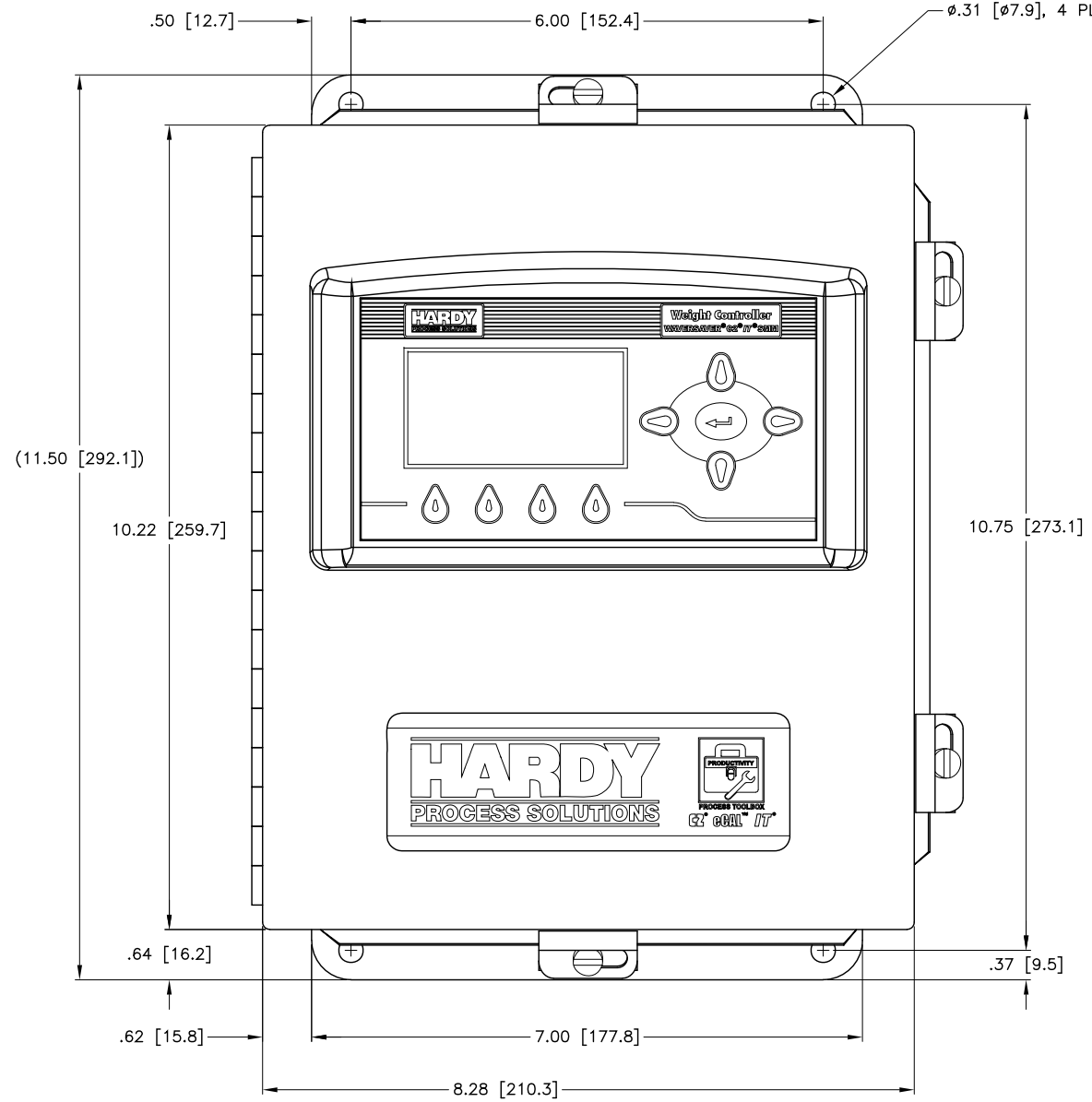
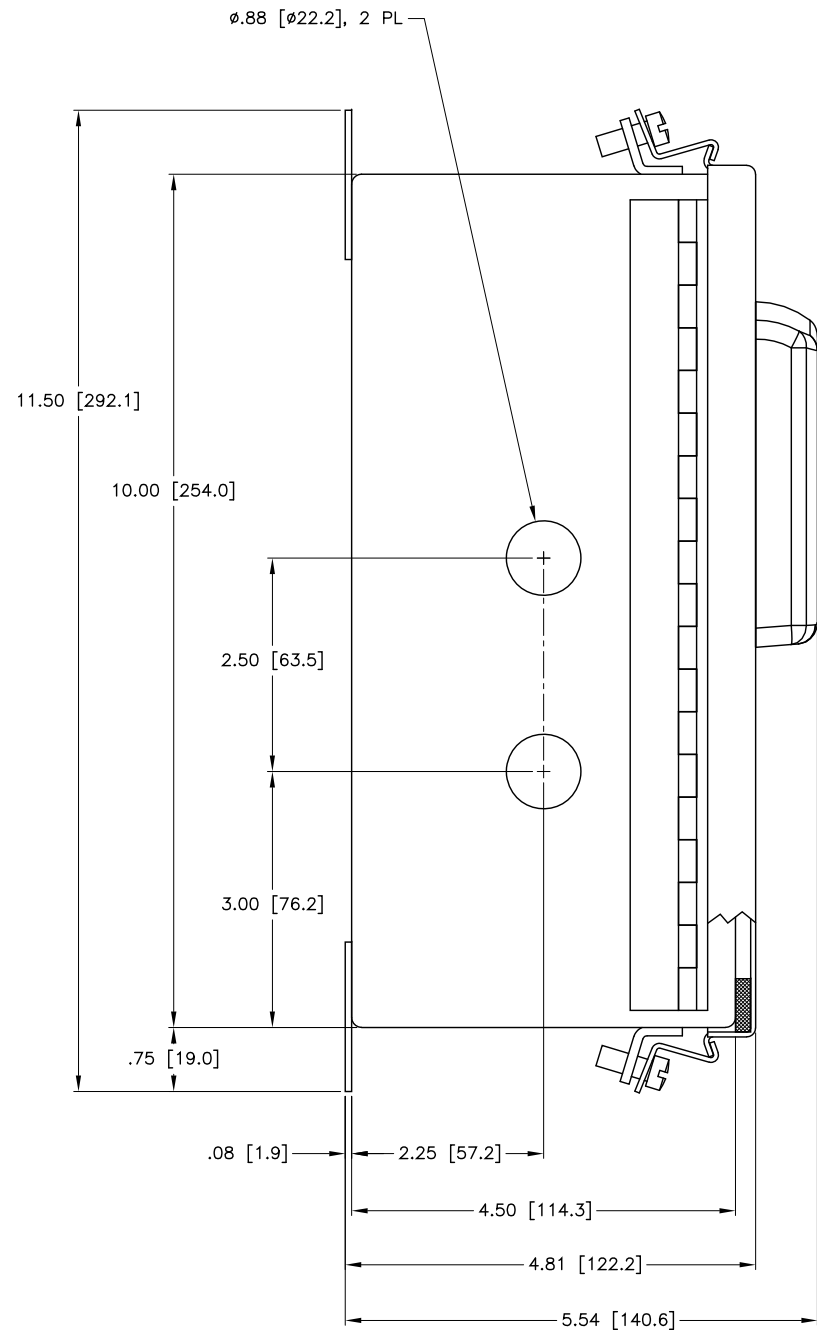
NEMA 4/4X WALL MOUNT HI 4050 WEIGHT CONTROLLER – WITHOUT DISPLAY



DIMENSIONS = IN [MM]

<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 3 OF 10

NEMA 4/4X WALL MOUNT HI 4050 WEIGHT CONTROLLER – WITH DISPLAY

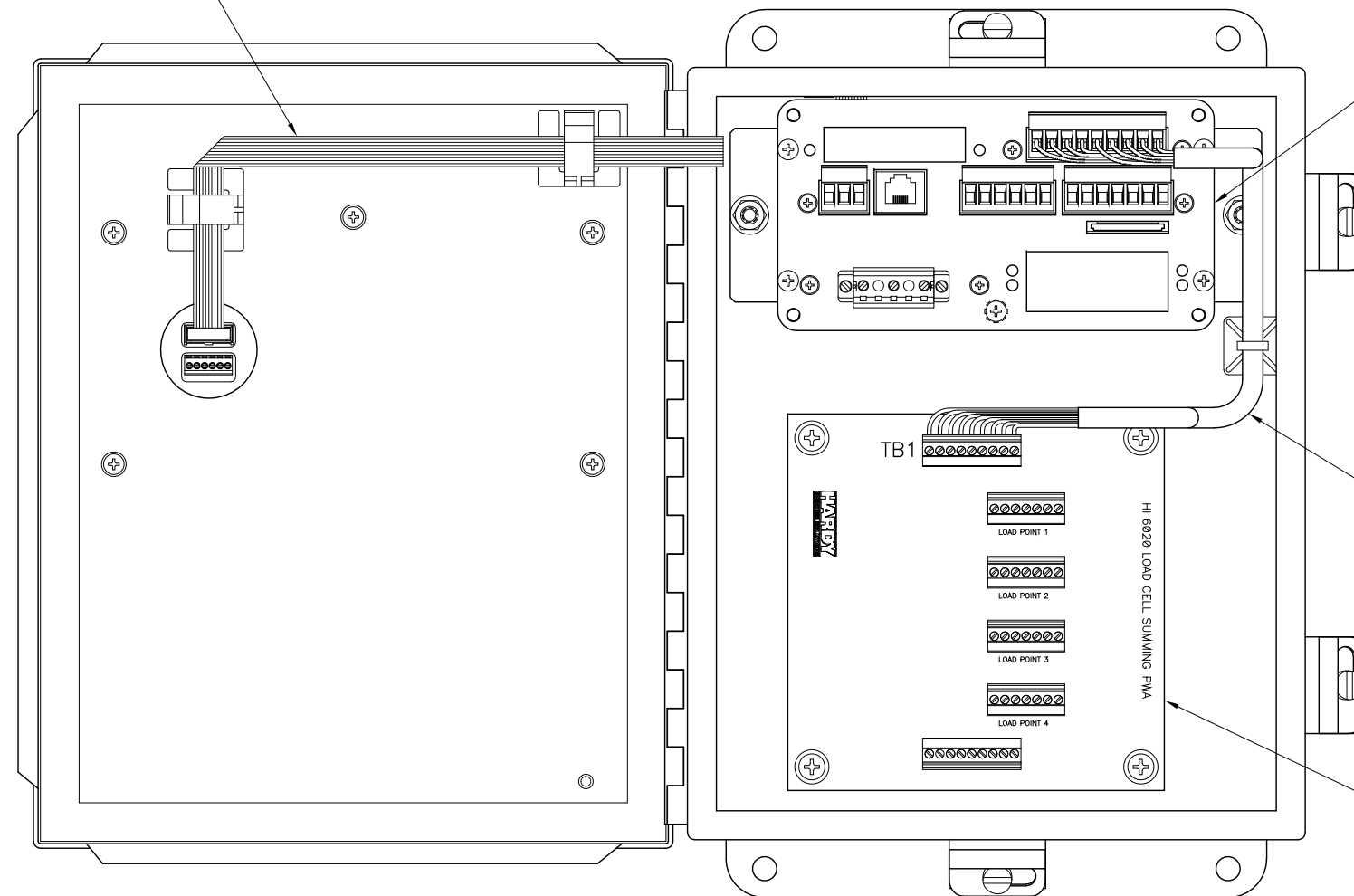


DIMENSIONS = IN [MM]

<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 4 OF 10

# NEMA 4/4X WALL MOUNT HI 4050 WEIGHT CONTROLLER – INTERNAL COMPONENTS

OPTION PMWP & PMWS DISPLAY CABLE



HI 4050 WEIGHT CONTROLLER MAIN UNIT

OPTION IT1, IT2, JB1 OR JB2 SUMMING CARD CABLE  
[WIRED BY HARDY INSTRUMENTS]

OPTION IT1, IT2, JB1 OR JB2 SUMMING CARD  
SEE SHEET 10 FOR IT SUMMING CARD OR  
LOAD CELL SUMMING CARD CONNECTIONS.

CABLE GLAND FITTINGS AND/OR HOLE PLUG SEALS ARE PACKED SEPARATELY INSIDE ENCLOSURE

DIMENSIONS = IN [MM]

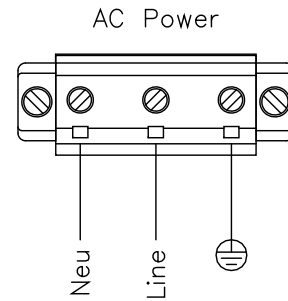
<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 5 OF 10

## POWER INPUT TERMINATIONS

### OPTION CODE AC

NOTES:

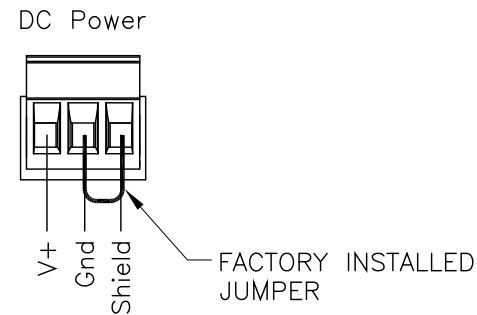
1. INPUT VOLTAGE: 120/240 VAC, 50/60 Hz, 0.5 AMP, 10 WATT.
2. OPTION AC OPERATING TEMPERATURE: -10°C TO +40°C.
3. WIRE SIZE: 14 AWG MAXIMUM / 18 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.



### OPTION CODE DC

NOTES:

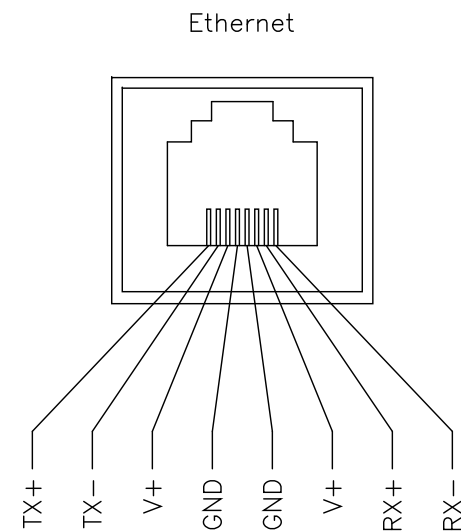
1. INPUT VOLTAGE: 24 VDC, 0.42 AMP, 10 WATT.
2. OPTION DC OPERATING TEMPERATURE: -10°C TO +60°C.
3. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.



### ETHERNET TERMINATION

NOTES:

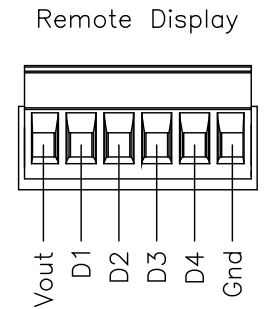
1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON ETHERNET TERMINATIONS.
2. CONNECTOR TYPE: RJ-45, 8 PIN
3. N.C. = NOT CONNECTED.



## REMOTE DISPLAY TERMINATIONS

NOTES:

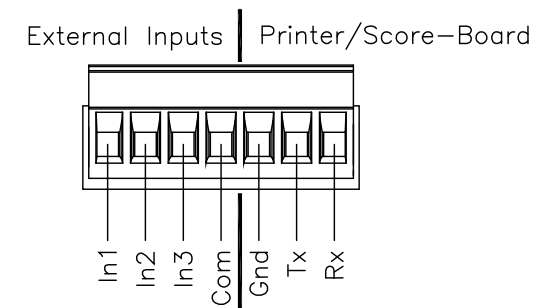
1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON REMOTE DISPLAY TERMINATIONS.
2. WIRE SIZE: 20 AWG MAXIMUM / 26 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.
3. SEE SHEET 2 FOR FRONT PANEL DISPLAY WIRE TERMINATIONS.
4. MAXIMUM CABLE LENGTH: 100 FEET [30.48 METERS]



## EXTERNAL INPUT & PRINTER/SCOREBOARD TERMINATIONS

NOTES:

1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON EXTERNAL INPUT AND PRINTER/SCOREBOARD TERMINATIONS.
2. EXTERNAL INPUTS ARE NON-ISOLATED, ACTIVE LOW AND REFERENCED TO COMMON [COM].
3. DO NOT BUNDLE ANALOG INPUT WIRING WITH POWER WIRING, RELAY CABLE OR ANY OTHER HIGH ENERGY CABLES.
4. EXTERNAL INPUTS CAN BE CONFIGURED IN THE MAPPING SECTION OF THE INSTRUMENT'S WEB PAGE.  
FACTORY DEFAULT EXTERNAL INPUT MAPPINGS: NONE
5. PRINTER/SCORE-BOARD TRANSMIT DATA [Tx] AND RECEIVE DATA [Rx] USE RS-232 SERIAL INTERFACE COMMUNICATION PROTOCOL.
6. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.



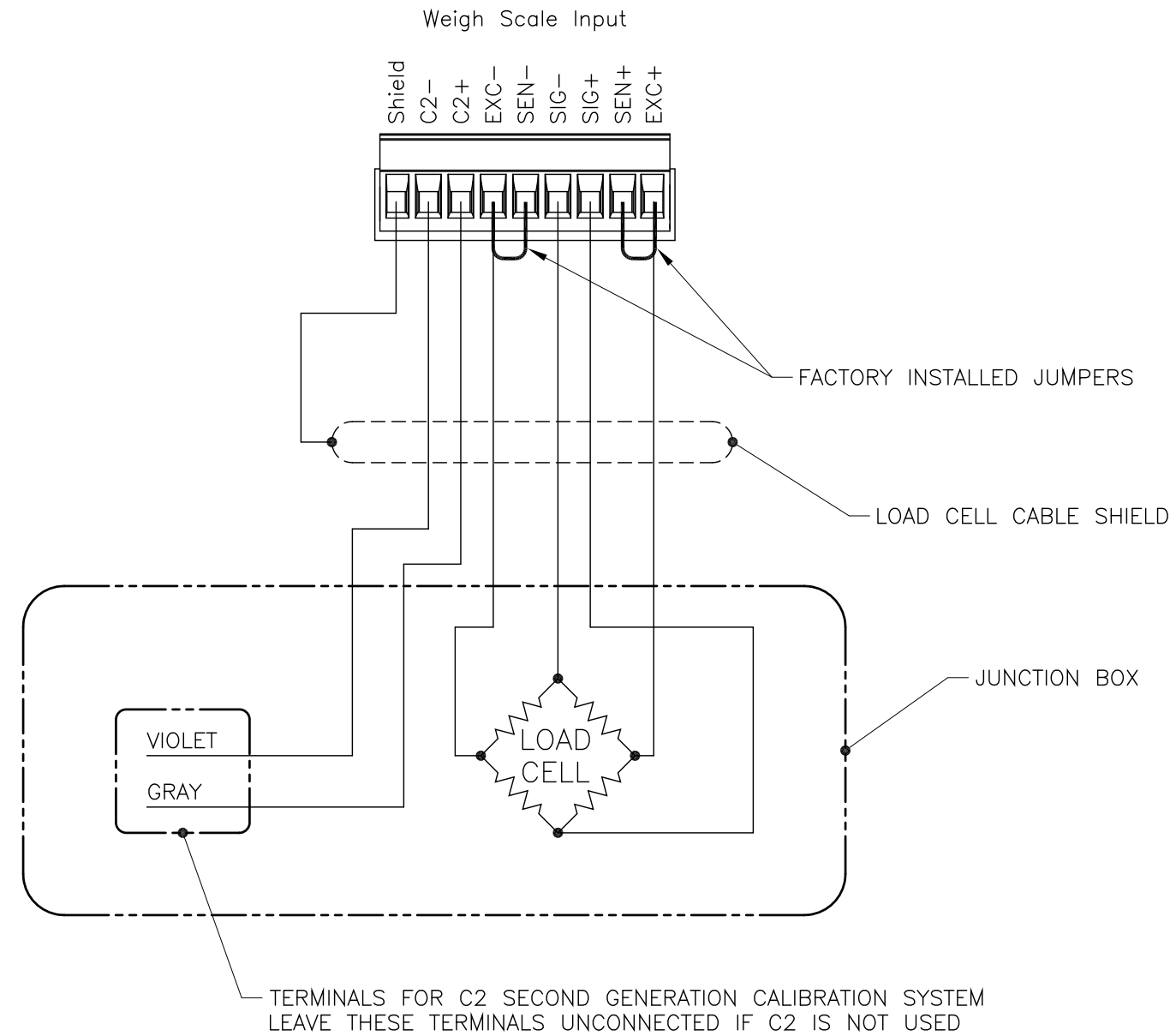
**HARDY**  
PROCESS SOLUTIONS

TITLE			
I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 6 OF 10

# WEIGH SCALE INPUT TERMINATIONS

**NOTES:**

1. DO NOT RUN LOAD CELL CABLE PARALLEL TO, OR IN THE SAME CONDUIT WITH POWER WIRING, RELAY CABLE OR OTHER HIGH ENERGY CABLES.
2. FACTORY INSTALLED JUMPERS TO REMAIN IN PLACE FOR FOUR WIRE LOAD CELL CONNECTION. JUMPERS TO BE REMOVED FOR SIX WIRE OR EIGHT WIRE [C2] LOAD CELL CONNECTIONS. EXCITATION AND SENSE WIRES TO BE CONNECTED TOGETHER IN JUNCTION BOX.
3. REQUIRED LOAD CELL CABLE FOR C2 SECOND GENERATION CALIBRATION SYSTEM: HARDY INSTRUMENTS PART NUMBER 6020-0001-0.
4. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON ANALOG WEIGH SCALE INPUT CONNECTIONS.
5. C2 WIRE PAIR MUST BE CONNECTED WHEN USING THE HARDY INTEGRATED TECHNICIAN SUMMING CARDS.
6. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.

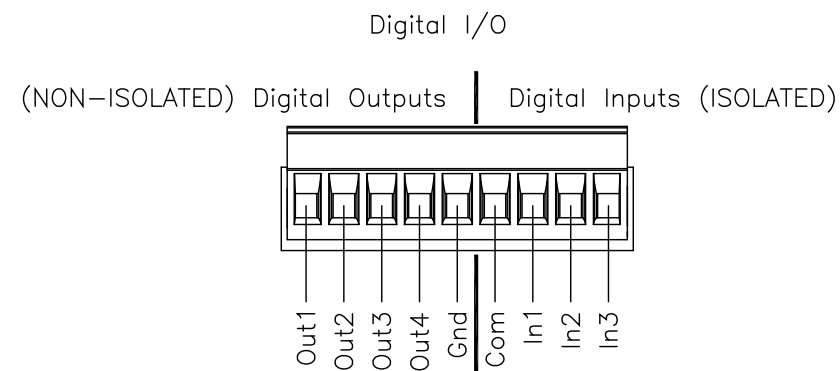


<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 7 OF 10

## OPTION CODE DIO – DIGITAL I/O

### NOTES:

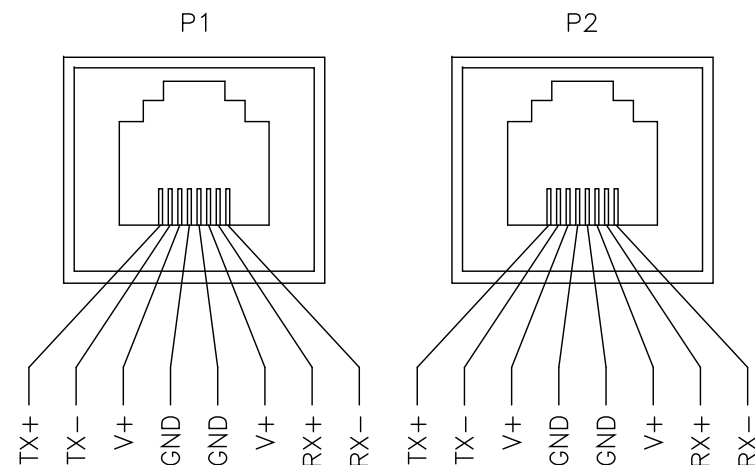
1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON DIGITAL I/O TERMINATIONS.
2. DIGITAL INPUTS & OUTPUTS ARE SOFTWARE CONFIGURABLE. SEE USER'S GUIDE FOR ADDITIONAL SETTING CONFIGURATIONS.  
INPUTS: 5–24VDC, 6mA  
OUTPUTS: SOURCE: 0–5VDC  
SINK: 0–24VDC
3. OPTION DIO IS LOCATED IN THE AUXILIARY OPTION SLOT, WHEN ORDERED.
4. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.



## OPTION CODE PFN – PROFINET COMMUNICATIONS

### NOTES:

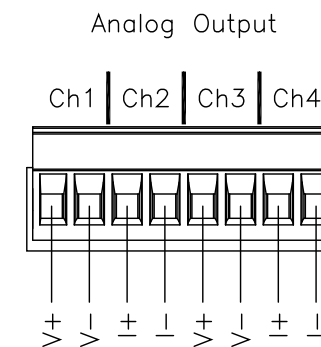
1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON PROFINET TERMINATIONS.
2. CONNECTOR TYPE: RJ-45, 8 PIN, QTY 2.
3. OPTION PFN IS LOCATED IN THE NETWORK OPTION SLOT, WHEN ORDERED.



## OPTION CODES 4ANA & 4ANB – ANALOG OUTPUT TERMINATIONS

### NOTES:

1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON ANALOG OUTPUT TERMINATIONS.
2. ANALOG OUTPUTS ARE SOFTWARE CONFIGURABLE. SEE USER'S GUIDE FOR ADDITIONAL SETTING CONFIGURATIONS.  
FACTORY DEFAULT SETTINGS:  
CURRENT [CH2 & CH4]: 4–20mA  
VOLTAGE [CH1 & CH3]: 0–10VDC
3. OPTION 4ANA IS LOCATED IN THE NETWORK OPTION SLOT, WHEN ORDERED.  
OPTION 4ANB IS LOCATED IN THE AUXILIARY OPTION SLOT, WHEN ORDERED.
4. ONLY ONE ANALOG OUTPUT OPTION CARD CAN RESIDE IN THE HI 4050 INSTRUMENT, WHEN ORDERED.
5. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.



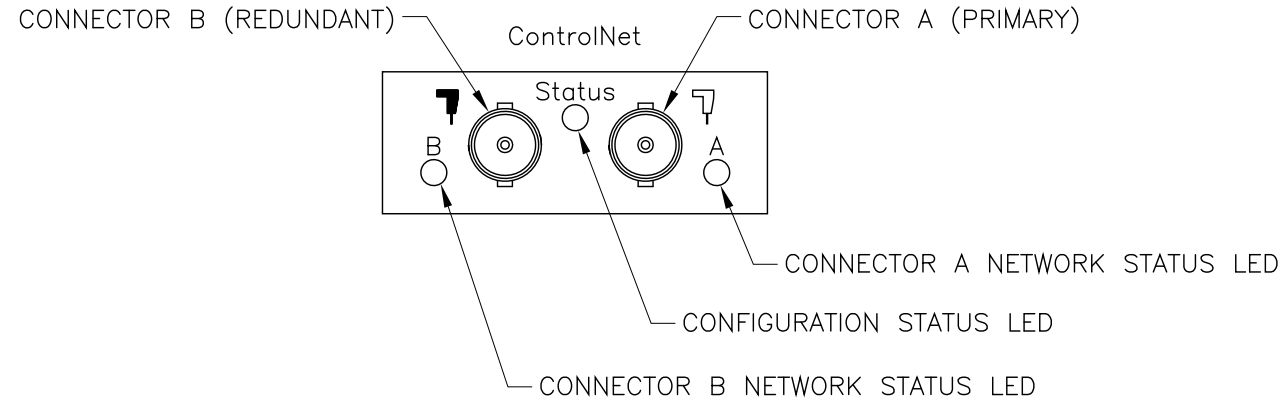
<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 8 OF 10



## OPTION CODE CN – CONTROLNET I/O INTERFACE

### NOTES:

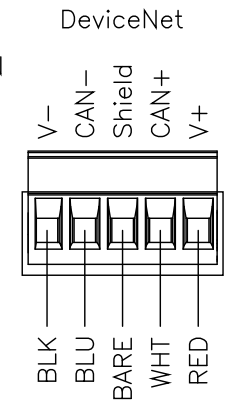
1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON CONTROLNET I/O INTERFACE TERMINATIONS.
2. OPTION CN IS LOCATED IN THE NETWORK OPTION SLOT, WHEN ORDERED.
3. THIS OPTION REQUIRES STANDARD BNC TYPE INTERFACE CONNECTORS. WHEN ORDERED WITH HI 4050-DRWS OR HI 4050-PMWS, RIGHT ANGLE BNC INTERFACE CONNECTORS MUST BE USED.
4. IF REDUNDANCY IS WANTED, BOTH CONNECTORS SHOULD BE USED.



## OPTION CODE DN – DEVICENET COMMUNICATIONS

### NOTES:

1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON DEVICENET TERMINATIONS.
2. OPTION DN IS LOCATED IN THE NETWORK OPTION SLOT, WHEN ORDERED.
3. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.

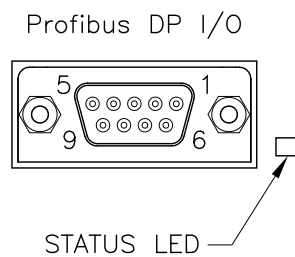


## OPTION CODE PB – PROFIBUS DP I/O

### NOTES:

1. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON PROFIBUS DP I/O INTERFACE TERMINATIONS.
2. OPTION PB IS LOCATED IN THE NETWORK OPTION SLOT, WHEN ORDERED.
3. INTERFACE CONNECTOR TYPE ON THE INSTRUMENT:  
9 PIN D-SUBMINIATURE [DE-9], FEMALE CONTACTS.

CONNECTOR TERMINATIONS	
PIN	SIGNAL
1	NO CONNECT
2	NO CONNECT
3	RXD/TXD +
4	RTS
5	GND BUS
6	+5V BUS
7	NO CONNECT
8	RXD/TXD -
9	NO CONNECT



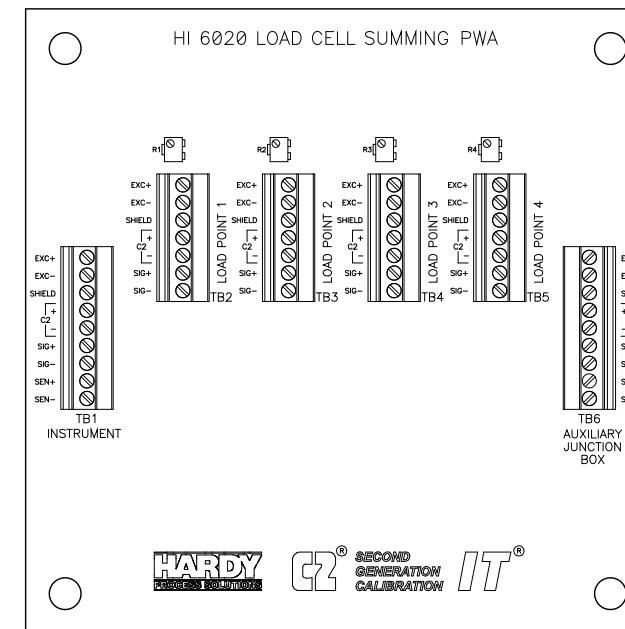
<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 9 OF 10

OPTION CODES IT1 & IT2 – IT SUMMING CARD  
 OPTION CODES JB1 & JB2 – LOAD CELL SUMMING CARD

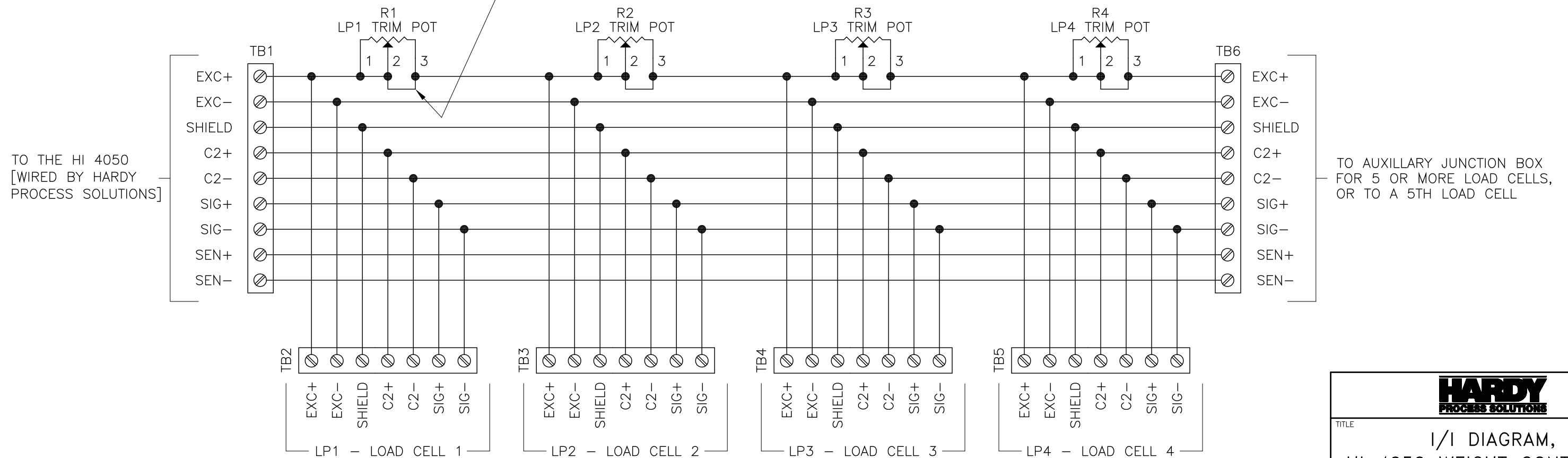
NOTES:

1. DO NOT RUN LOAD CELL CABLES PARALLEL TO, OR IN THE SAME CONDUIT WITH POWER WIRING, RELAY CABLE OR OTHER HIGH ENERGY CABLES.
2. REQUIRED LOAD CELL CABLE FOR C2 SECOND GENERATION CALIBRATION SYSTEM: HARDY PROCESS SOLUTIONS PART NUMBER 6020-0001-0.
3. SEE HARDY PROCESS SOLUTIONS WEB SITE FOR ADDITIONAL INFORMATION ON IT SUMMING/LOAD CELL SUMMING CARD CONNECTIONS.
4. WIRE SIZE: 12 AWG MAXIMUM / 22 AWG MINIMUM.  
 WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.

IT SUMMING/LOAD CELL SUMMING CARD



ZERO OHM JUMPER REMOVED WHEN SUMMING CARD IS EQUIPPED WITH TRIM POTS, 4 PLACES APPLIES TO OPTION CODES IT2 & JB2 ONLY  
 NOTE: THE USE OF TRIM POTS WILL INVALIDATE C2 CALIBRATION DATA WHEN USED WITH C2 LOAD CELLS



IT SUMMING/LOAD CELL SUMMING CARD WIRING DIAGRAM

<b>HARDY</b> PROCESS SOLUTIONS			
TITLE I/I DIAGRAM, HI 4050 WEIGHT CONTROLLER			
SIZE	FSCM	DRAWING NO.	REV.
D	21316	0584-0064	F
FILE NAME: 584064F1.DWG		SCALE: NONE	SHEET 10 OF 10