1. SEE SHEET 2 FOR FRONT PANEL DISPLAY DIMENSIONS.

2. SEE SHEET 2 FOR FRONT PANEL DISPLAY DIMENSIONS.

3. GENERIC USER INTERFACE PANEL SHOWN ONLY. SEE SHEETS 6 THROUGH 9 FOR USER INTERFACE PANEL CONNECTIONS.

4. SEE SHEET 3 FOR WALL MOUNT ENCLOSURE WITHOUT DISPLAY DIMENSIONS.

5. SEE SHEET 4 FOR WALL MOUNT ENCLOSURE WITH DISPLAY DIMENSIONS.

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.

7. SEE SHEET 5 FOR WALL MOUNT ENCLOSURE INTERNAL COMPONENTS.

NOTES: UNLESS OTHERWISE SPECIFIED
HI 4050 WEIGHT CONTROLLER FRONT PANEL DISPLAY

**Front Panel Display Terminal Block**

- **Notes:**
  1. See user's guide for additional information on remote display terminations.
  2. Wire size: 20 AWG maximum / 26 AWG minimum.
  4. Maximum cable length: 100 feet [30.48 meters]

**Front Panel Display Mounting Dimensions**

- Viewed from front of instrument.

**Dimensions = in [mm]**

**Title:** I/I Diagram, HI 4050 Weight Controller

**Document Information:**
- File Name
- Sheet Number: 2 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: 16 AWG MAXIMUM / 22 AWG MINIMUM.
   WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.

ETHERNET TERMINATION

NOTES:
1. SEE USER'S GUIDE FOR ADDITIONAL INFORMATION ON ETHERNET TERMINATIONS.
2. CONNECTOR TYPE: RJ-45, 8 PIN
3. N.C. = NOT CONNECTED.

REMOTE DISPLAY TERMINATIONS

NOTES:
1. SEE USER'S GUIDE 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 USER'S GUIDE 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/SCOREBOARD TRANSMIT DATA [T] AND RECEIVE DATA [R] USE RS-232 SERIAL INTERFACE COMMUNICATION PROTOCOL.
6. WIRE SIZE: 16 AWG MAXIMUM / 22 AWG MINIMUM.
   WIRE TIGHTENING TORQUE: 2 LB-IN MINIMUM / 4 LB-IN MAXIMUM.
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 9020-0001-0.

4. SEE USER'S GUIDE FOR ADDITIONAL INFORMATION ON ANALOG WEIGH SCALE INPUT CONNECTIONS.

5. C2 WIRE PAR 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.

TERMINALS FOR C2 SECOND GENERATION CALIBRATION SYSTEM
LEAVE THESE TERMINALS UNCONNECTED IF C2 IS NOT USED.

FACTORY INSTALLED JUMPERS

LOAD CELL CABLE SHIELD

JUNCTION BOX

VIOLET
GRAY
OPTION CODE DIO – DIGITAL I/O

NOTES:
1. SEE USER’S GUIDE 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
             SNK: 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 CODES 4ANA & 4ANB – ANALOG OUTPUT TERMINATIONS

NOTES:
1. SEE USER’S GUIDE 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 [CH1 & CH3]: 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.
OPTION CODE CN - CONTROLNET I/O INTERFACE

NOTES:
1. SEE USER'S GUIDE 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.

CONNECTOR B (REDUNDANT) -> ControlNet
CONNECTOR A (PRIMARY) -> Connector A NETWORK STATUS LED
CONNECTOR B NETWORK STATUS LED

OPTION CODE RIO - ALLEN-BRADLEY REMOTE I/O INTERFACE

NOTES:
1. SEE HI 4000 SERIES REMOTE I/O USER'S GUIDE FOR ADDITIONAL INFORMATION ON ALLEN-BRADLEY REMOTE I/O INTERFACE TERMINATIONS.
2. N.C. = NOT CONNECTED.
3. ONLY TERMINATE THE LAST NETWORK CARD IN THE CHAIN.
4. OPTION RIO IS LOCATED IN THE NETWORK OPTION SLOT, WHEN ORDERED.
5. 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 USER'S GUIDE 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 [DB-9], FEMALE CONTACTS.

CONNECTOR TERMINATIONS
<table>
<thead>
<tr>
<th>PIN</th>
<th>SIGNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>RXD/TXD +</td>
</tr>
<tr>
<td>4</td>
<td>RTS</td>
</tr>
<tr>
<td>5</td>
<td>GND BUS</td>
</tr>
<tr>
<td>6</td>
<td>5V BUS</td>
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</tr>
<tr>
<td>8</td>
<td>RXD/TXD -</td>
</tr>
<tr>
<td>9</td>
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</tr>
</tbody>
</table>

OPTION CODE DN - DEVCICNET COMMUNICATIONS

NOTES:
1. SEE USER'S GUIDE FOR ADDITIONAL INFORMATION ON DEVCICNET 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 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 USER’S GUIDE 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 WIRING DIAGRAM

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

TO THE HI 4050
[WIRED BY HARDY PROCESS SOLUTIONS]

TO AUXILIARY JUNCTION BOX
FOR 5 OR MORE LOAD CELLS,
OR TO A 5TH LOAD CELL