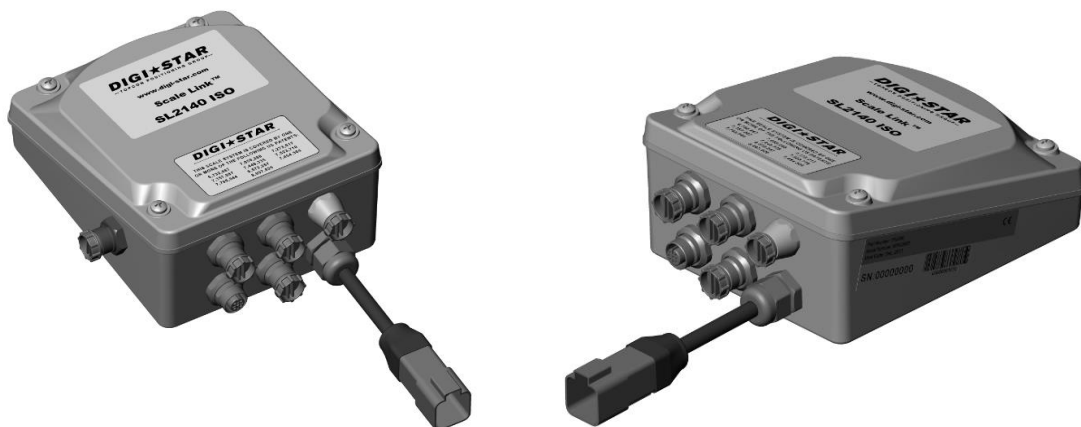




Scale Link 2000 Series Installation Manual



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D4197-EN SL2 Series Installation Manual LCC

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1.0 INTRODUCTION

Thank you for purchasing a Scale Link™ product.

This installation manual describes the steps necessary to install the Scale Link™ and available connector configurations.

Scale Link™ works with several types of user displays such as Scale Link Control (SLC2810, SLC2400)™, Universal Terminal (ISO models ONLY), and the Touch Screen Terminal (TST7600) Feed Mixing system. Separate manuals describe the use and installation of the displays.

Additional Document Information listed below:

D4196 - SL2 ISO Operator's Manual

D4195 – SLC 2810 Operator's Manual

D4020 - Direct Access Numbers (D. A. N.)

D4204 - SL2 Technical Manual

www.digi-star.com

2.0 TECHNICAL SPECIFICATIONS

VOLTAGE RANGE	11V – 36V DC (12V & 24V* machinery) with reverse polarity protection. *Limited to 11- 16V with SLC2810 or ISOBUS compliant implements.
CURRENT @ 13.8 VDC OPTIONS	<200mA base scale with 4 load cells to 5.0A maximum with all options. Internal self-resetting fuses for PCB protection & SLC remote protection.
LOAD CELL PLATFORMS	16 Maximum 350 ohm transducers; 1 platform x 16 bars, 2 x 8, or 4 x 4.
LOAD CELL EXCITATION	Regulated 8.0VDC, current sensing and overcurrent protected.
OPERATING ENVIRONMENT	-29°C to 60°C (-20°F to 140°F); 0 to 95% RH non-condensing.
ENCLOSURE	IP65 per IEC529
REMOTE INPUT	Active high or active low base on software setting; 0 – 10,000Hz.
OUTPUT CONTROL/ALARM	Active high 3.0A continuous, with 5.0A surge.
SERIAL PORT	RS232 Com 1 & Com 2; 1200 – 115K baud; 7/8 bits; E/O/N parity; Scoreboard/ streaming data; Serial Gross Weight; DS ERM compatible.
INTERNAL USB PORT	USB 2.0 A port; FAT32; up to 4G. For Settings Save/ Load, Software Update; ISOBUS update.
SCALE LINK CONTROL	SPI Bus on 8 pin M12 supports SLC2810, SLC2400, custom SPI remotes.
CAN 1 PORT	General purpose CAN port; ISOBUS and Universal Terminal (UT) Compatible Typically connects with DT6, DT4, and other standard Connector types.
CAN 2 PORT	Proprietary CAN port for connection to other devices or sensors.

3.0 SAFETY DURING USE



Danger: Indicates an imminently hazardous situation that, if not avoided, **WILL** result in death or very serious injury.



Warning: Indicates a potential hazardous situation that, if not avoided, **CAN** result in death or very serious injury.



Caution: Indicates a potential hazardous situation that, if not avoided, **MAY** result in a minor injury.

IMPORTANT !: Signals special mechanical information

3.1 Exposure to Radio Frequency

Exposure to energy from radio frequencies is an important safety issue. As this product uses the Wi-Fi and Cellular system of a smartphone or tables please consult with the safety information provided with the device that the App operates with.

3.2 Prior to Operation

Read and understand this manual and learn all controls before you use the equipment. Check that the area is clear of people, animals, and obstacles before starting any work. Identify possible hazards.

3.3 Check System Before Use

Before using the App with the Digi-Star weighing system read the Operator's Manual for the scale indicator and the Wi-Fi system. Follow all instructions.

IMPORTANT!

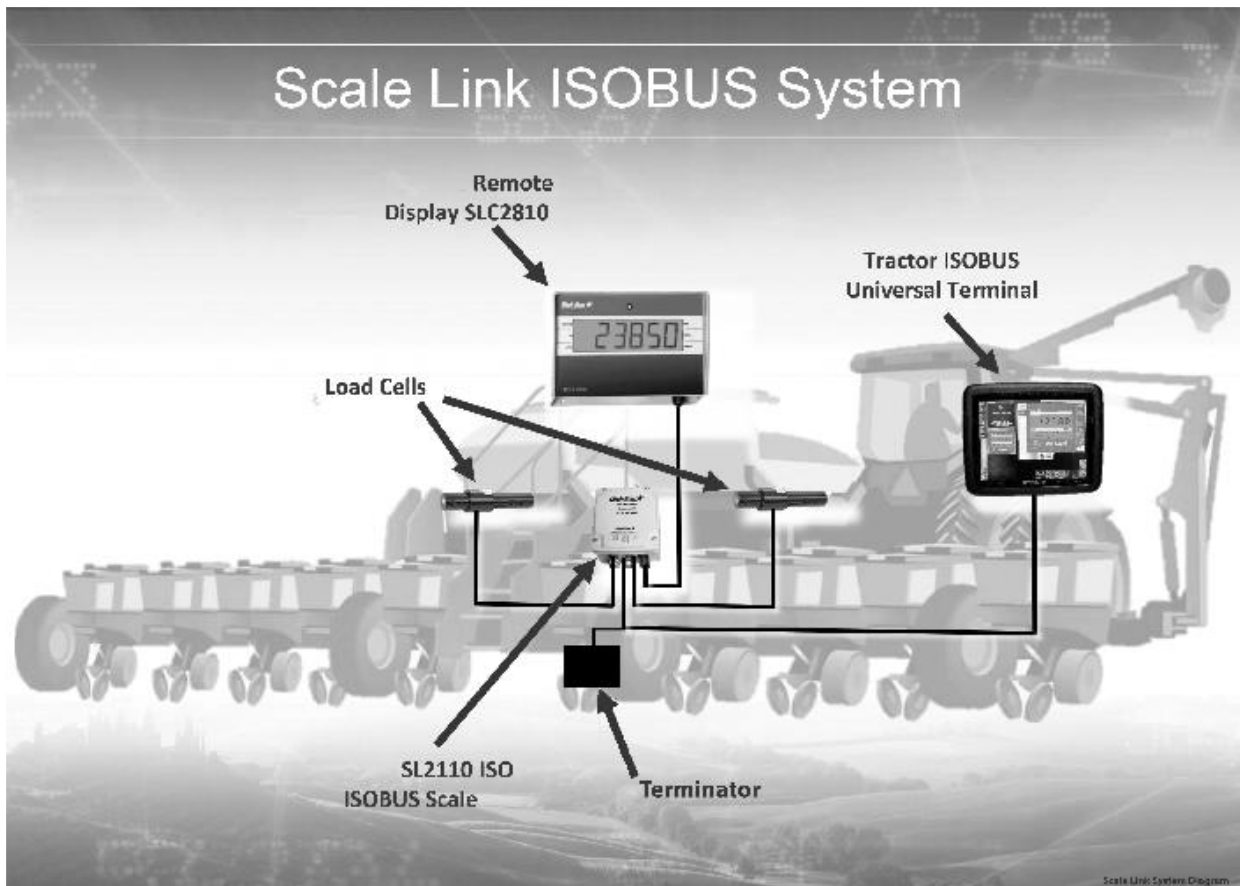
3.4 Cleaning

Do not use pressurized running water (high pressure cleaners, hoses nozzles, etc.) to clean the indicator. Water ingress and damage to the indicator may result. Use soapy water and a sponge or cloth for best results.

3.5 Battery Charging and Welding

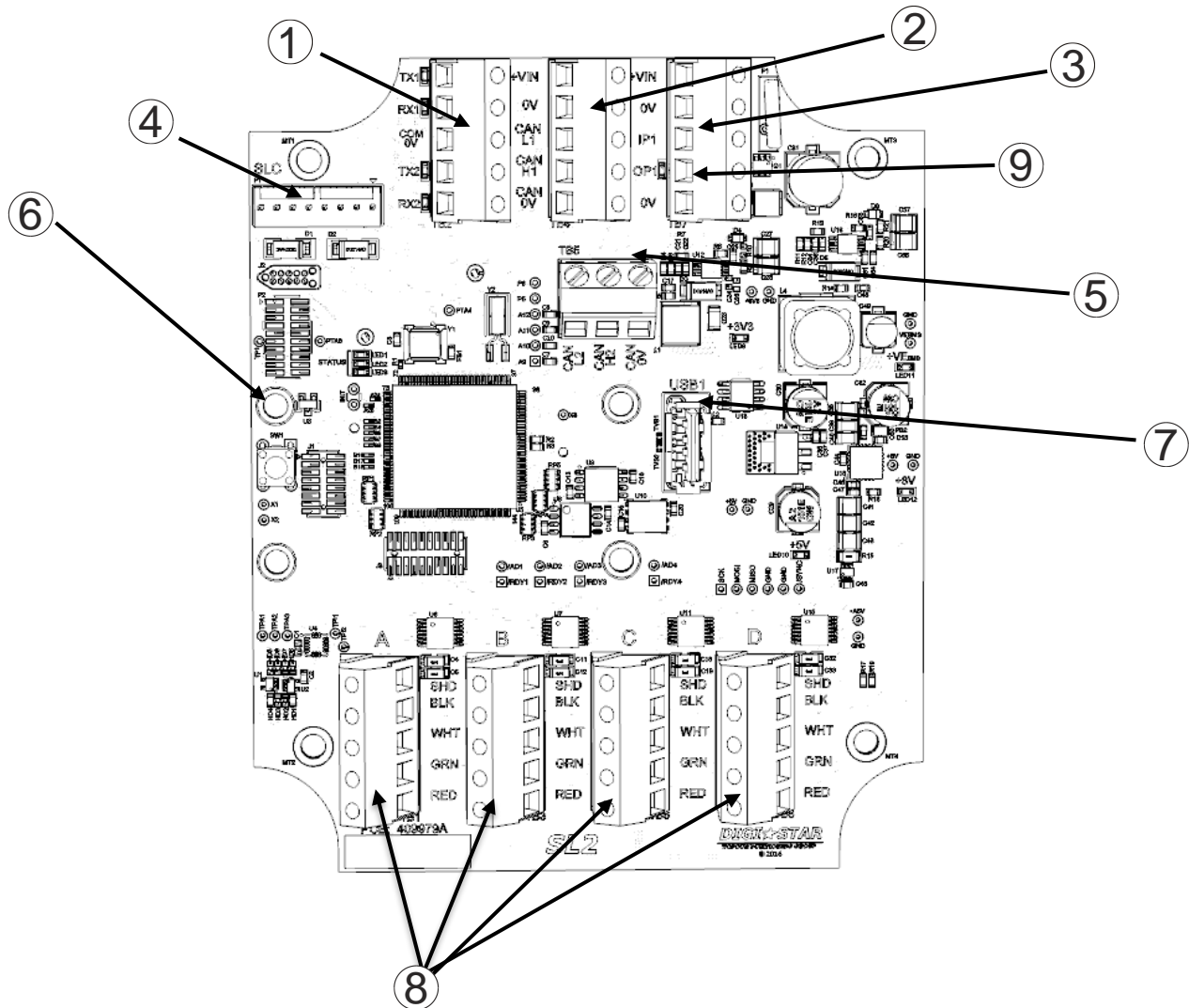
Disconnect all cables from the ScaleLink2 system before charging the battery or welding on the machine. If cables are left connected, indicator damage may result.

4.0 OVERVIEW SCALE LINK ISOBUS SYSTEM



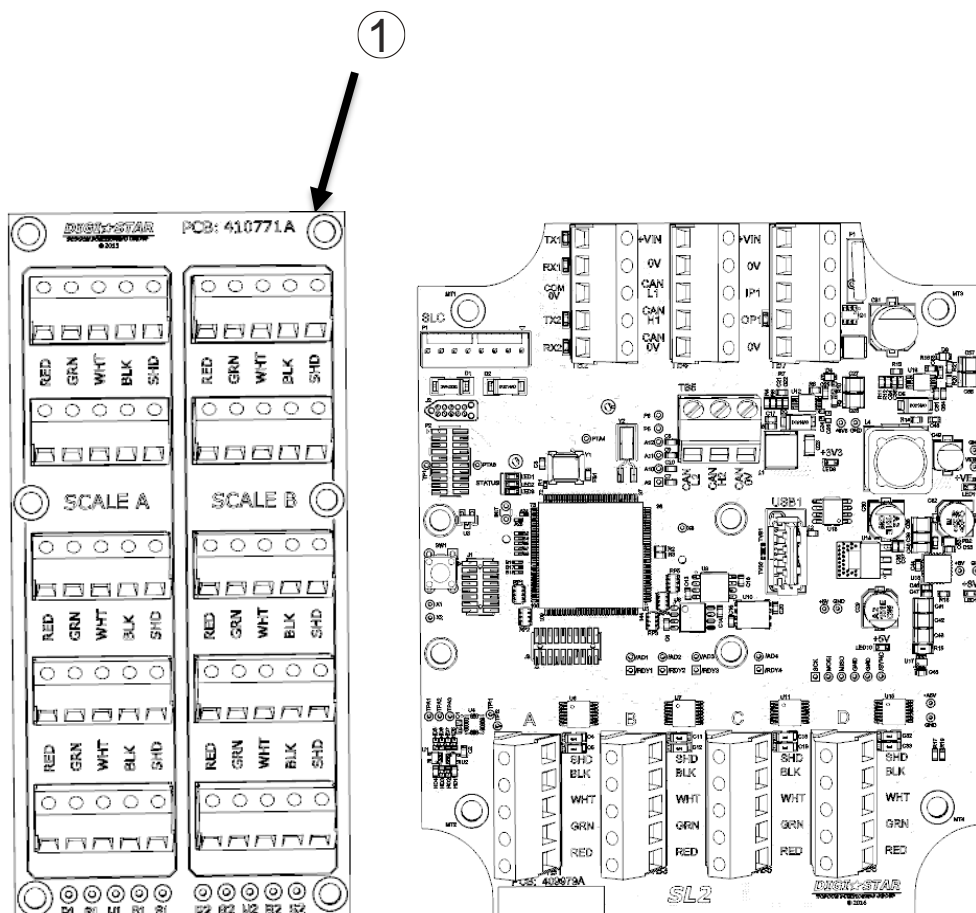
5.0 FEATURES

SL21xx SERIES SCALE LINK FEATURES



1. Communications:(printer, touch screen, other serial enabled devices).
2. ISOBUS connections (CAN1)
3. Power 11 to 36VDC
4. SLC / Remote Connection
5. ISOBUS Connections (CAN2)
6. Reset Button
7. USB
8. Load Cell Connections
9. Remote Output (Terminal OP1)

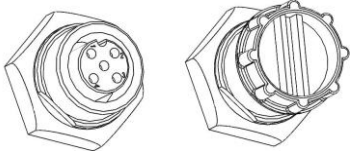
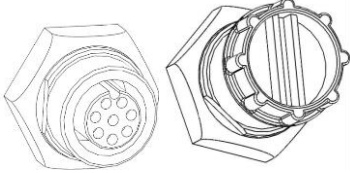
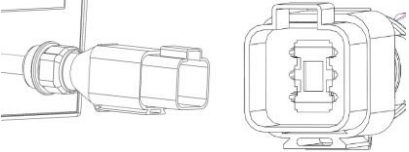
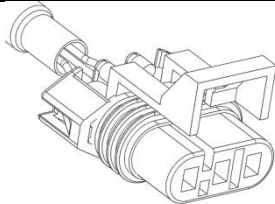
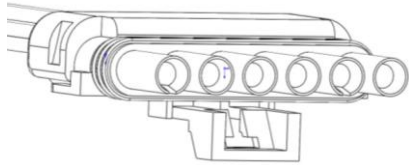
SL22xx SERIES SCALE LINK FEATURES



1. Scale Link 2 load cell terminal board

6.0 CONNECTOR TYPES AND FUNCTION

Several connectors types are utilized as standard or optional equipment on the Scale Link. Find below detailed information on the connectors.

NAME	FUNCTION	IMAGE OF CONNECTOR
M12-5 PIN http://www.farnell.com/datasheets/1916406.pdf	Load Cell connector for all Digi-Star Load Cells	 Un-Capped Capped
M12-8 PIN http://www.alliedelec.com/m/d/0586c514e9157febbafef9b80160828f.pdf	Scale Link Control (SLC2810, SLC2400)	
Deutsch DT6 http://www.mouser.com/pdfdocs/TE-DEUTSCH-DT-Connectors-ProductSpec.pdf	ISOBUS/ CAN	
Metri Pack 3 https://www.mouser.com/pdfdocs/Delphi_MetriPack_Connection_Systems_Series.pdf	AutoLog Rotation Sensor	
Weather Pack 6 www.delphi.com/docs/default-source/old-delphi-files/223df246-5b9e-40eb-b140-496b02d731ef.pdf	Special Applications	

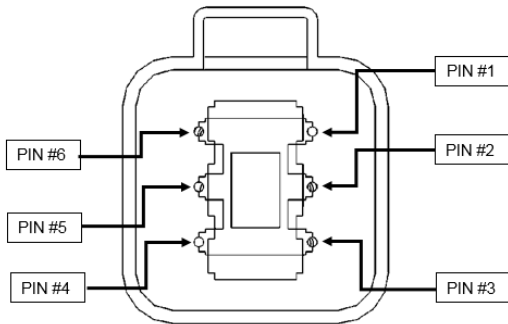
Find detailed PINOUT information for commonly utilized connectors noted above on the following page.

6.1 Connector PINOUTS

DT6 PINOUT ISOBUS CONNECTION

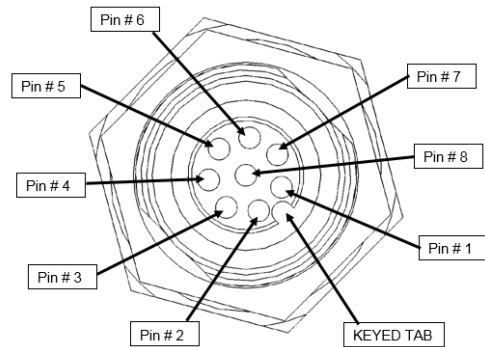
PIN #	WIRE COLOR	FUNCTION	PCB TERMINAL BLOCK
1	RED	ECU PWR	TB4-+VIN
3	BLACK	ECU GND	TB4-0V
4	GREEN	CAN LO	TB4-CAN-L1
2	YELLOW	CAN HI	TB4-CAN-H1
5	N/A	N/A	N/A
6	N/A	N/A	N/A

FRONT OF CONNECTOR



M12 x 8-PIN PINOUT SLC Scale Link Control

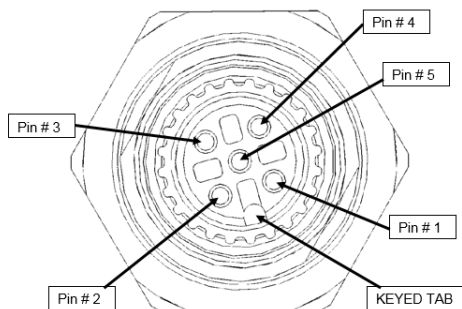
PIN #	WIRE COLOR	FUNCTION
1	WHITE	+12V
2	BROWN	+12V
3	GREEN	REMOTE ZERO
4	YELLOW	SEG DATA
5	GRAY	CLOCK
6	PINK	KEY DATA
7	RED	GND
8	BLUE	GND



M12 x 5-PIN PINOUT LOAD CELL CONNECTION

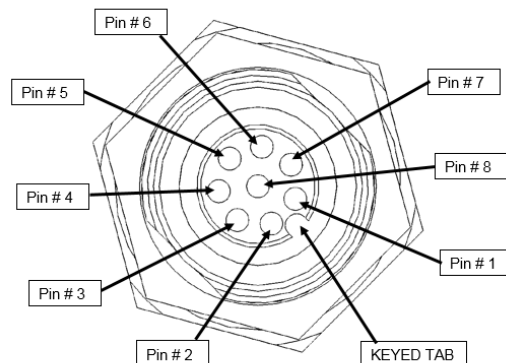
PIN #	WIRE COLOR	FUNCTION	TERMINAL BLOCK
1	BROWN	+EXCITATION	TB-RED
2	WHITE	-SIGNAL	TB-GRN
3	BLUE	+SIGNAL	TB-WHT
4	BLACK	-EXCITATION	TB-BLK
5	GRAY	SHIELD	TB-SHD

M12x5-Pin (LOAD CELL)



M12 x 8-PIN PINOUT SLC Scale Link Control

PIN #	WIRE COLOR	FUNCTION
1	WHITE	+12V
2	BROWN	+12V
3	GREEN	REMOTE ZERO
4	YELLOW	SEG DATA
5	GRAY	CLOCK
6	PINK	KEY DATA
7	RED	GND
8	BLUE	GND

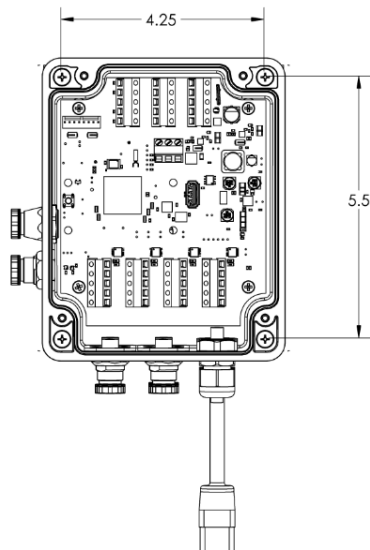


7.0 MOUNTING

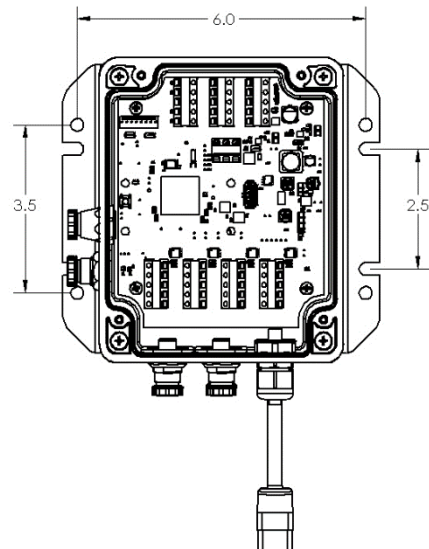
Using the washers supplied with this product, mount the Scale Link as shown in Option 1 or Option 2. (Remove top cover from scale link to install mounting screws).

OR

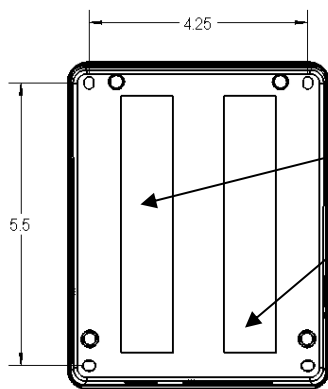
Mount Scale Link 2 using adhesive tape. Place adhesive tape on back side of Scale Link (Option 3)



Option 1. Directly to Implement



Option 2. Bracket (p/n: 408283)



Placement of two 5" strips of VHB tape on the back of SL2 housing bottom.

Option 3. Adhesive tape

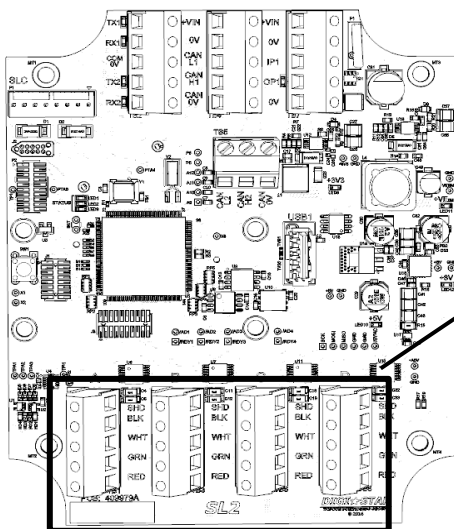
8.0 LOAD CELL CONNECTIONS

IMPORTANT ! If connecting Scale Link to a different brand of load cells, color schemes and functions may not match.

8.1 Load Cell Setup and Connections

If you have;

- M12-5P connectors on the Scale Link and Load Cells: Plug Load Cells directly in to Scale Link 2 connections.
- No Load Cell connectors on Scale Link and bare leads on Load Cells: Install cables through strain reliefs connectors and wire Load Cells to Scale Link terminal blocks LC1 thru LC4.



WIRE LOAD CELLS DIRECT		
WIRE	MAIN PCB DESIGNATOR	FUNCTION
RED	RED	+SIGNAL
GREEN	GRN	-SIGNAL
WHITE	WHT	+EXCITATION
BLACK	BLK	-EXCITATION
SHIELD	SHD	SHIELD

EZMATE CONNECTORS		
WIRE	MAIN PCB DESIGNATOR	FUNCTION
BROWN	RED	+SIGNAL
WHITE	GRN	-SIGNAL
BLUE	WHT	+EXCITATION
BLACK	BLK	-EXCITATION
GRAY	SHD	SHIELD

9.0 DISPLAY

Determine which connector is used with your display. See connector options on pg 10. Connect display to mating connector on Scale Link. Refer to wiring reference information shown on pages 14 and 15 for more detail. Connect Scale Link to a 11.0 to 36.0VDC power source.

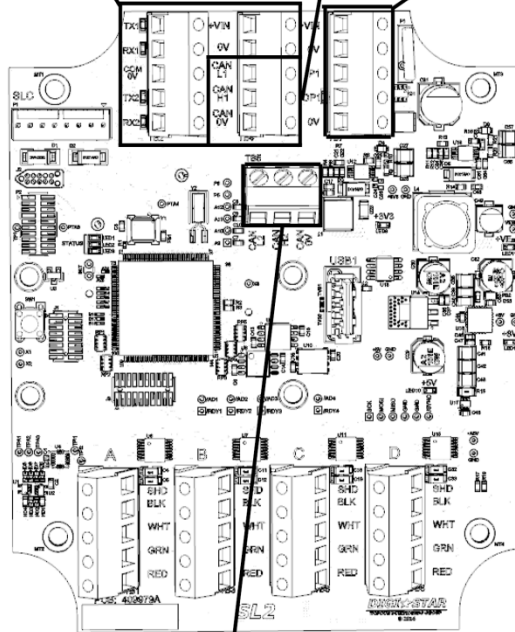
10.0 WIRING REFERENCE INFORMATION

See Section 5.0

PRINTER & SERIAL ENABLED DEVICES		
FUNCTION	MAIN PCB DESIGNATOR	TERMINAL BLOCK
COM	COM	TB1-3
DATA IN (RX1)	IN	TB1-2
DATA IN (TX1)	PRN	TB1-1
DATA IN (RX2)	IN	TB1-5
DATA IN (TX2)	PRN	TB1-4
+ 12VDC	+ VIN	TB2-1
GROUND	0V	TB2-2

ISOBUS/CAN1 COMMUNICATION		
FUNCTION	MAIN PCB DESIGNATOR	TERMINAL BLOCK
DATA	CANL1	TB2-3
DATA	CANH1	TB2-4
GROUND	CAN0V	TB2-5

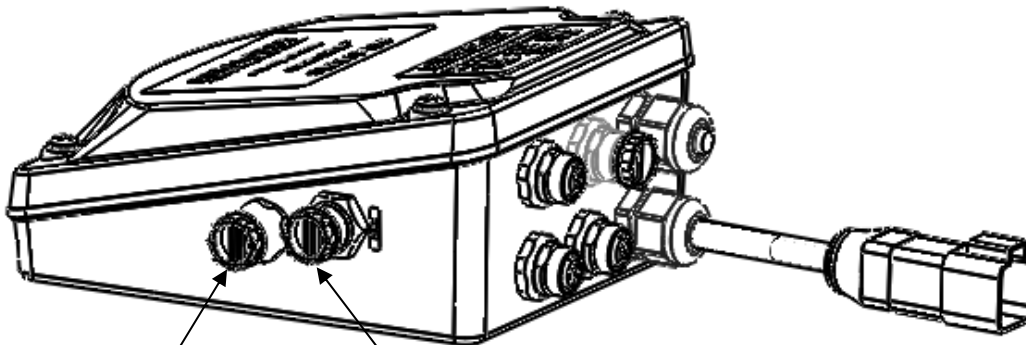
POWER & INPUT/OUTPUT		
FUNCTION	MAIN PCB DESIGNATOR	TERMINAL BLOCK
+ 12VDC	+ VIN	TB3-1
GROUND	0V	TB3-2
INPUT	IP1	TB3-3
OUTPUT	OP1	TB3-4
GROUND	0V	TB3-5



ISOBUS/CAN2 COMMUNICATION		
FUNCTION	MAIN PCB DESIGNATOR	TERMINAL BLOCK
DATA	CANL2	TB4-1
DATA	CANH2	TB4-2
GROUND	CAN0V	TB4-3

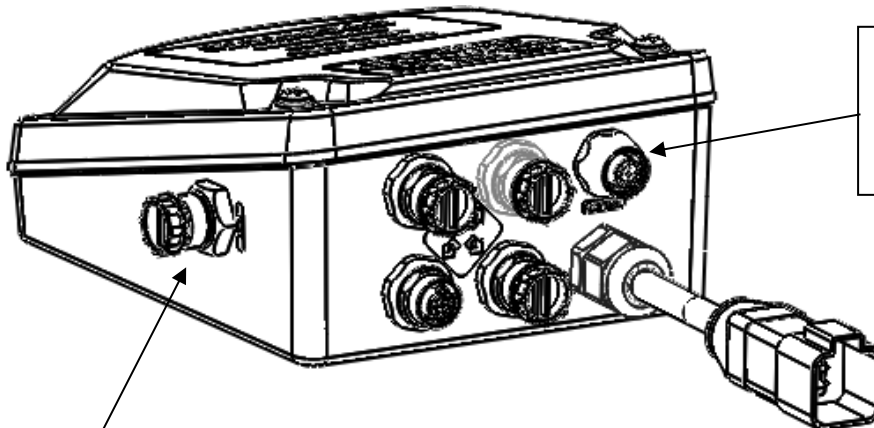
11.0 (SLC) SCALE LINK CONTROL CONNECTION & SERIAL CONNECTION

- SLC2810, SLC2400 indicators will connect to M12-8 labeled SLC located on Scale Link Unit.
- Wi-Fi Module (using cable with p/n:410818) will connect to M12-8 labeled SERIAL located on Scale Link Unit.



Serial
Connection for
Wi-Fi Module.

Scale Link Control Indicator (SLC) Connection on
ScaleLink2 using a M12-8P connector.



Serial
Connection
for Wi-Fi
Module.

Scale Link Control Indicator (SLC) Connection
on ScaleLink2 using a M12-8P connector.

12.0 OPTIONAL EQUIPMENT



409665 Radio-ERM-WIFI External WiFi Radio Module for use to communicate with Android or IOS phone or tablet and Topcon Ag Control Apps. Requires Cable Below.

410818 Cable-M12 SER to ERM (13' or 4m) Adaptor Cable to connect ERM-WiFi to SL2. Cable length allows ERM-WiFi to be placed in a position high on the machine to provide clear Line-of Site communication.