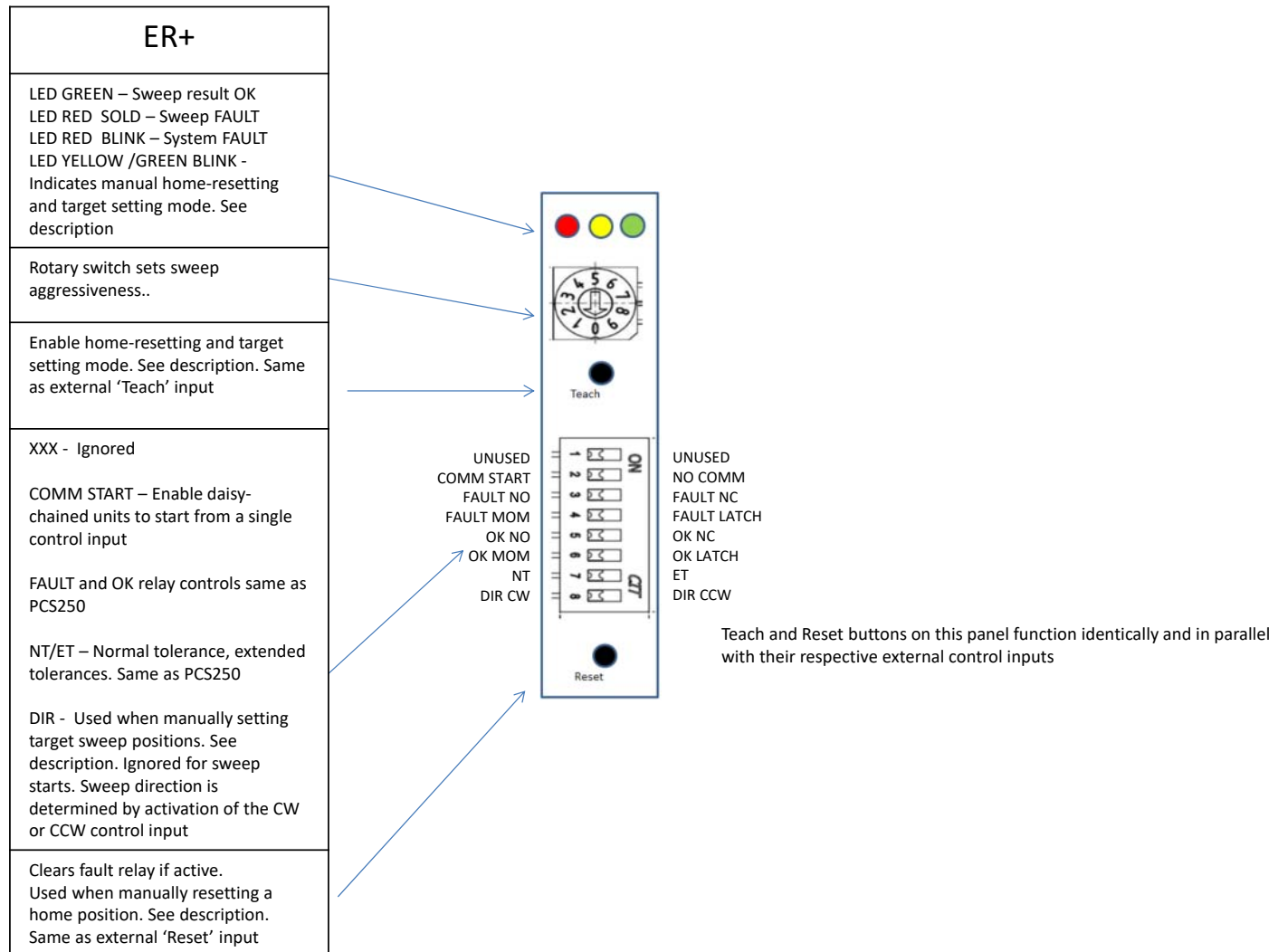


Allora BSC Series Controller
used with
ER+ Adaptive Touch Technology© Sensors



Front panel controls for operation with ER+ Sensors



Tool Target & Home Position

Methods to establish tool/target positions

Method #1 – Manual Cycle Start

The front panel Teach button controls sweep teach cycle in the direction of the front panel direction switch.

Press 1 time to enter teach mode for both directions. Press again to initiate teach sweep. To teach the other direction, change the direction switch, then press again to sweep.

Method #2 – Manual Position

Press and hold the front panel Teach button for 5 seconds.

Both the green and yellow lights will flash at 1s intervals. The wand can now be rotated to the target. Pressing the Teach button again will capture the position as the target for the direction as defined by the switch. The indicators will return to normal mode. Repeat the above sequence to teach the target position for the other direction.

Method #3 – Machine Cycle Start

Place the unit into teach mode either with the front panel button or via the external control input. The first cycle for each direction will be interpreted as a teach cycle. After that, succeeding cycles will be test cycles.

Reset a sensor's home position

To reset the sensor home position

Press and hold the teach button (front panel or external) for 5 seconds until Teach and OK LEDs begin flashing. The sensor is now in zero velocity mode and the wand can be moved to a new home position. The new position is assigned when the 'Reset' (front panel or external) button is pressed.

Managing system faults

System Fault

A system fault condition (indicated by a blinking red fault light) results from some hardware failure.

- The wand cannot return to its home position after a detect or teach cycle.
- The wand cannot return to its home position on a power-up.
- The controller is unable to communicate with the sensor.

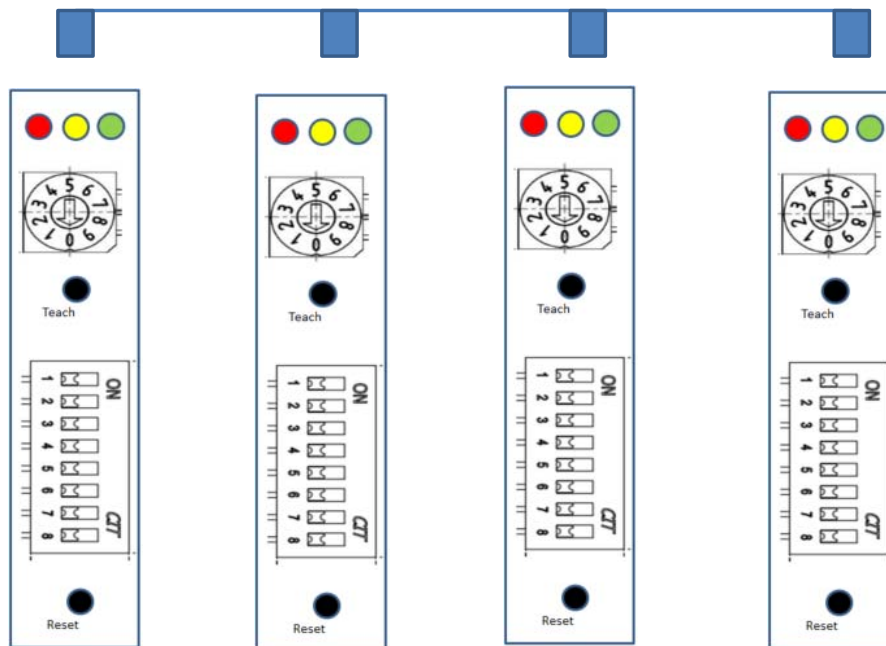
ER+ with Allora controller system response

After correcting the condition causing the fault, the recovery procedure is to press either the front panel 'Reset' button or activate the External reset line. The controller will cycle power to the sensor, then self-reset and command the sensor to home position. The green OK led will activate on success. The system is now ready for normal operation.

The Wand will return normally to home position.

Daisy-Chained Option

A group of units could be daisy-chained together to reduce wiring.
They can share power, CAN, start, reset, teach
Each has it's own sensor.
OK and Fault relays are fully independant



Connection & Wiring Guide

J4 and J5 are IDC ribbon for daisy-chaining units. Each may be used independently. The daisy-chain ribbon cable may be cut with sharp scissors to remove unwanted connections or simply left floating.

J5 allows power and TB5 to be connected at one unit, then distributed to others

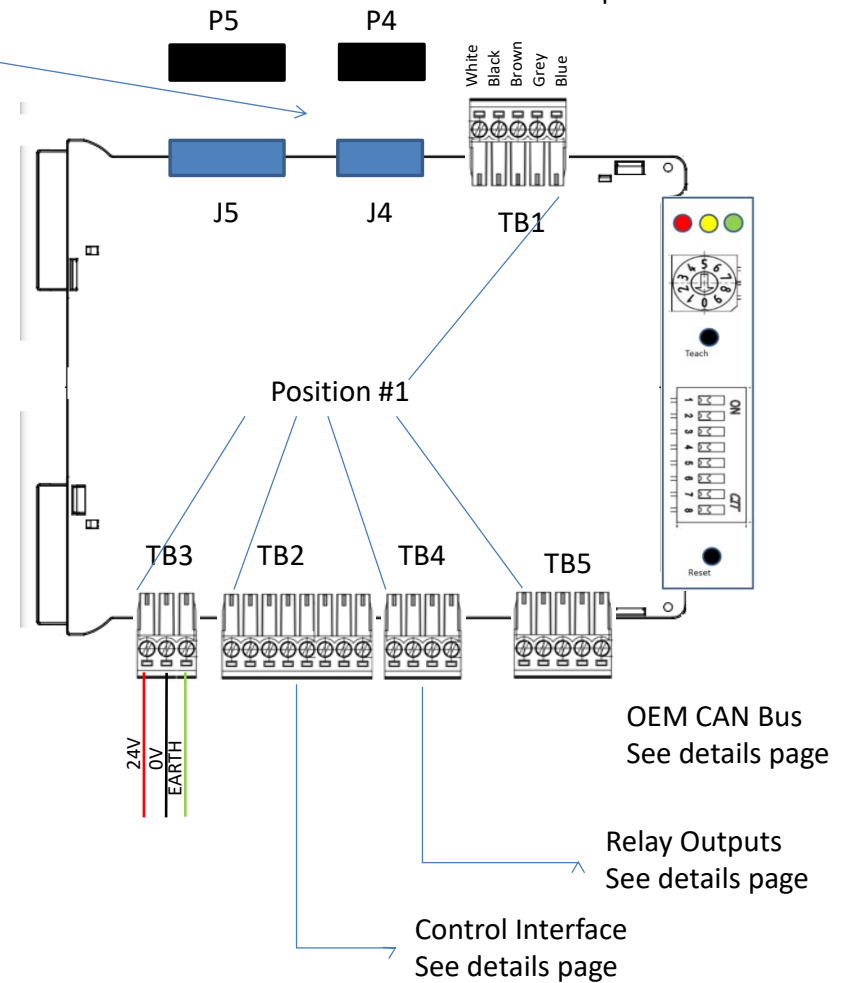
J4 distributes Starts, Teach, and Reset controls to additional units

When a daisy-chain ribbon is in place, Teach and Reset circuits are always distributed across the units. One wired unit will control the others. This can reduce system wiring complexity.

The Start circuit distribution is controlled from a front-panel dipswitch setting. This allows for units to simultaneously or independently started. If simultaneous starts are desired, one unit can be wired with the start signal; the others will be started through the daisy-chain connection. Otherwise, each unit would require it's own start signal

Designator	Mfr.	Mfr PN
TB1	Würth Elektronik	691361100005
TB2	Würth Elektronik	691361100008
TB3	Würth Elektronik	691361100003
TB4	Würth Elektronik	691361100004
TB5	Weidmüller	1597390000
P4 (assy)	Allora Intl.	TBD
P5 (assy)	Allora Intl.	TBD

To PCS350 or ER+ sensor
Follow color convention listed for Allora provided cables



TB2 Control Interface Details

This interface provides four 24V control inputs, a power-limited 24V source, and two open-collector type outputs for status indication

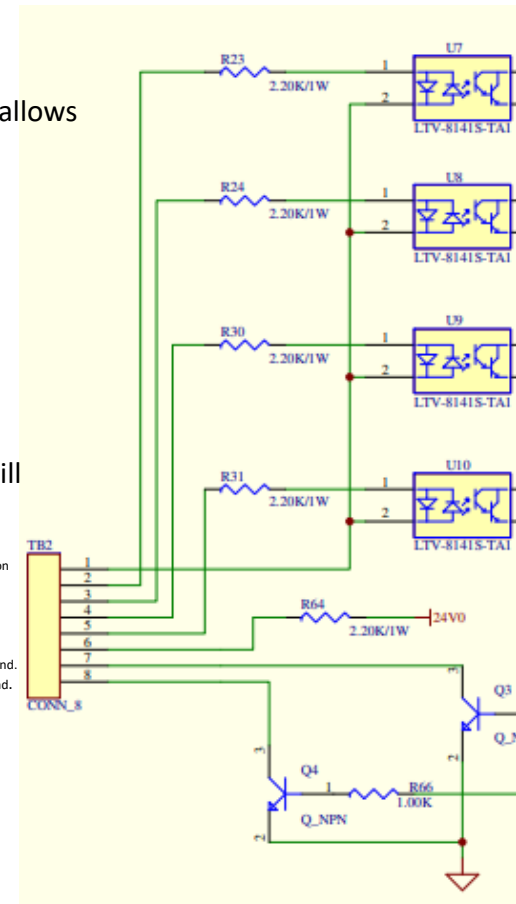
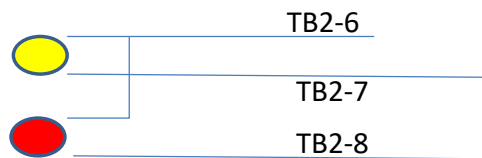
Note that the common for the inputs is provided (Pin 1) and not connected internally. This allows for operation with NPN or PNP type controls.

The 4 inputs:

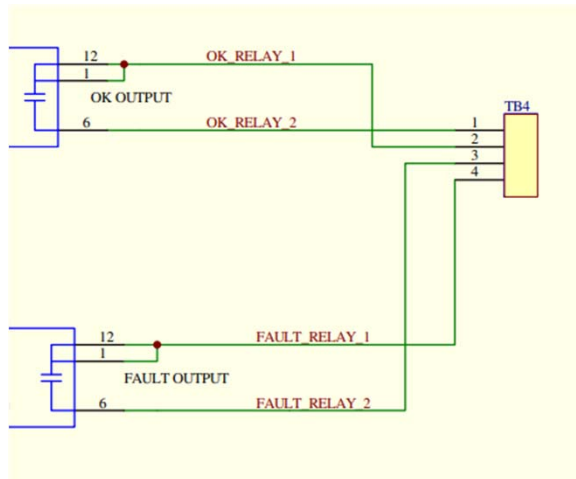
1. Start_1 – When active, a sweep cycle is initiated in the CW direction*
2. Start_2 – When active, a sweep cycle is initiated in the CCW direction*
3. Reset – Clears a faulted condition when activated
4. Teach Mode – First activation places the unit into teach mode. Second activation will initiate the position learning sweep

***PCS350 Sensor** - the Start_1 and Start_2 inputs are redundant. Activation on either one will initiate the sweep as determined by the front panel switch setting. Only one is required.

The 24V source and 2 open collector provide a mechanism for remote status indication. These can drive LEDs to indicate 'Teach Mode' and 'Fault' conditions.



Relays



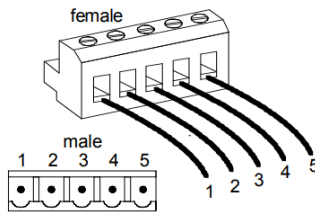
Two relays are provided to signal for OK or FAULT responses to teach and detect sweeps. Relay activity is not affected by daisy-chain connections. They are independent

When operating in the non-latching mode, toggle time is 450ms

Relays are 'dry' contact types

Contacts are rated at 5A@125VAC

7.3 Open style connector



TB1 and TB5

Wiring follows the CANOpen wiring convention

If Open Style Connectors are used the following pinning is recommended:

Pin	Signal	Description
1	CAN_GND	Ground / 0 V / V-
2	CAN_L	CAN_L bus line (dominant low)
3	(CAN_SHLD)	Optional CAN Shield
4	CAN_H	CAN_H bus line (dominant high)
5	(CAN_V+)	Optional CAN external positive supply (dedicated for supply of transceiver and opto-couplers, if galvanic isolation of the bus node applies)

Compliance & Standards



RoHS Compliant

Positive Contact – Hazardous Materials

All **Positive Contact** products and packaging are manufactured with RoHS compliant materials. They are free of Bromide Halogens (PBB, PBDE), Mercury, Cadmium, and Chrome 6+.

All **Positive Contact** products are Lead Free.

All **Positive Contact** products comply with current EU environmental standards, including directive amendments regarding the use of perfluorooctane sulfonates, (PFOS).

All **Positive Contact** products and packaging are free of any material containing Asbestos.

All **Positive Contact** foam packaging is free of CFC's, HCFC's or HFC's. The foam and its ash is non-toxic, landfill safe and recyclable.



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