

# ***INTELLISPEC™***

## **Good Part Confirm Addendum**

**Pressco Technology Inc.**

**75910 Rev. 01**



Original Instructions

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# Chapter 1

## Good Part Confirm

### Description

The Good Part Confirm PCB monitors Intellispec Good Part signals from the Extended I/O PCB. It requires an additional Part Detect sensor installed after the reject point.

Any time a part is detected a Good Part signal must be received during the part detect signal. If the Good Part signal is not received in time the Part Confirm alarm will be set and the System OK signal will turn off.

The fault outputs consist of four signals that are a binary representation of the fault. Up to 15 fault conditions can be indicated. Only two are currently assigned. **Fault Assignments (4 fault indicator bits)** (on page 5)

A System OK output is also provided that is on when the system is offline or when it is online and all signals are functioning properly. The System OK signal will turn off when there is a fault. The fault outputs are latched on until the reset button is pressed.

➤ **Hardware prerequisites:**

- Extended I/O PCB
- Extra part detect sensor
- Good Part Confirm PCB

### Fault Assignments (4 fault indicator bits)

These signals are output from the Good Part Confirm PCB.

Fault bits: 0 = Off, 1 = On

| Condition/ Alarm | Number | Fault_B3 | Fault_B2 | Fault_B1 | Fault_B0 |
|------------------|--------|----------|----------|----------|----------|
| System OK        | 0      | 0        | 0        | 0        | 0        |
| Part Confirm     | 1      | 0        | 0        | 0        | 1        |
| System State     | 2      | 0        | 0        | 1        | 0        |

Fault indicator bits are a binary representation of the fault number.

0) System OK - System is offline or it is online and all monitored signals are functioning properly.

1) Part Confirm Alarm – A part was detected and the Good Part signal was not received in time.

2) System State Alarm – The Good Part Confirm PCB is not monitoring signals.

3-15) Unassigned.

### Operation

When a Good Part signal is received (from the Extended I/O PCB), it is loaded into a shift register to be delayed by the encoder count set by switches SW3 and SW4.

The delay has to be set to coincide with the part detect signal from a sensor installed after the reject point. If the Good Part signal from the shift register does not coincide with the part detect sensor signal the part confirm alarm is set.

A Part Good signal must occur with all part detect signals or the alarm will be set. When the alarm is set it will be latched until the Reset pushbutton is pressed or a Reset signal is received at the User I/O terminal block, TB2.

Signals are monitored when offline or online. Set SW2-6 to ON to monitor signals when online only.

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## Calibration

Calibration for the Good Part Confirm is done during installation, and does not need to be performed again unless:

- **Reject Delay** is changed - The Good Part signal is timed to occur at the Reject Delay point. If changes are made to the Reject Delay a new calibration may be required.
- **Part detect sensor position** is changed - The Good Part signal from the shift register may not coincide with the sensor signal and a new calibration will be required.

## Manual Calibration

Calibrate the shift register encoder delay. Manual Calibration mode is entered by setting SW2-7 to the ON position.

In Calibrate mode the Green and Red indicators will light to coincide with the part detect and Good Part signals.

The **Red** indicator will light when the **part detect** occurs. The **Green** indicator will light when the **Good Part** signal exits the shift register.

➤ *To calibrate the shift register encoder delay:*

1. Put the Intellispec system online to generate Good Part signals and run good parts manually one at a time.
2. Watch the Green and Red indicators as the part moves along the conveyor to check the timing of the signals.
3. Adjust switches SW3 and SW4 for the shift register encoder delay until the indicators light at the same time.
4. After calibrating the delay set SW2-7 to the OFF position for normal operation.

## Reject Confirm Calibration

The Good Part Confirm PCB uses the same sensor input as that used for Reject Confirm.

On the Good Part Confirm PCB, set switch SW2-7 to the OFF position.

After successfully running the Reject Confirm calibration procedure (below), set switches SW3 and SW4 (on the Good Part Confirm PCB) as close as possible to the Reject Confirm delay value. The switch settings do not have to exactly match the Reject Confirm delay value.

Use the following instructions to calibrate the Reject Confirm (valid for version 5.5 software).

Reject Confirm Calibration

Reject Confirm Delay [ms] 56

Start Calibration

Rejector 1  Enable Confirm  Time Based

Rejector 2  Enable Confirm  Time Based

Gate Size 1 10 milliseconds

Sensor Noise Filter 1 0 milliseconds

Gate Size 2 10 milliseconds

Sensor Noise Filter 2 0 milliseconds

Jam Detection Timeout 42 ms

➤ **To calibrate Reject Confirm:**

1. From Sensor Overview mode, right-click a sensor button > select Part Tracking > Reject Confirm Calibration.
2. Enable Reject **Confirm**.
3. If using time-based Reject Confirm, then also check the Time-Based box, and set Gate Size, Sensor Filter and Jam Detection Timeout.
4. Select the **Start Calibration** button.
5. Run a part through the system. Tip: for best results, run about 10 parts through the system.
6. When completed, select the **Stop Calibration** button. The system will compute Reject Confirm Delay. [Reject Confirm Delay = (number of pulses from Part Detect to Reject Confirm Sensor) minus Reject Delay]
7. Select the OK button to save changes and exit.

The following parameters are used only with Time-Based Reject Confirm:

**Gate Size**

The time interval (in milliseconds) that the system looks for the product to pass by the reject confirm sensor. The valid range is 1 to 63 milliseconds.

**Sensor Filter**

The shortest pulse width (in milliseconds) that the reject confirm sensor will pass. This is used to filter out glitches or noise. This is usually set much smaller than part width, but larger than glitches or noise. The valid range is 0 to 4 milliseconds.

**Jam Detection Timeout**

Specifies how long the sensor is blocked before the **Jam at Reject Confirm** alarm is triggered. This alarm must be enabled through Lane Alarm Configuration. The valid range is 1 to 32000 milliseconds.

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## User I/O TB2

For drawing, see *Good Part Confirm Interconnect - User I/O* (on page 12)

### Power

+V – 24VDC.

-V – 24VDC Common.

INPUT - 24VDC, 8mA.

OUTPUTS – 24VDC, 25mA max.

The user must provide a 24VDC power supply for the inputs and outputs at TB2.

### Outputs

SYSOK\_OUT – System OK - System is offline or it is online and all monitored signals are functioning properly.

FAULT\_B0 – Fault indicator bit 0 (LSB).

FAULT\_B1 – Fault indicator bit 1.

FAULT\_B2 – Fault indicator bit 2.

FAULT\_B3 – Fault indicator bit 3 (MSB).

### Input

RESET\_IN – Clears fault indicator bits.

### Indicator Lamp/ Reset Pushbutton

GREEN – System OK - System is online and all monitored signals are functioning properly.

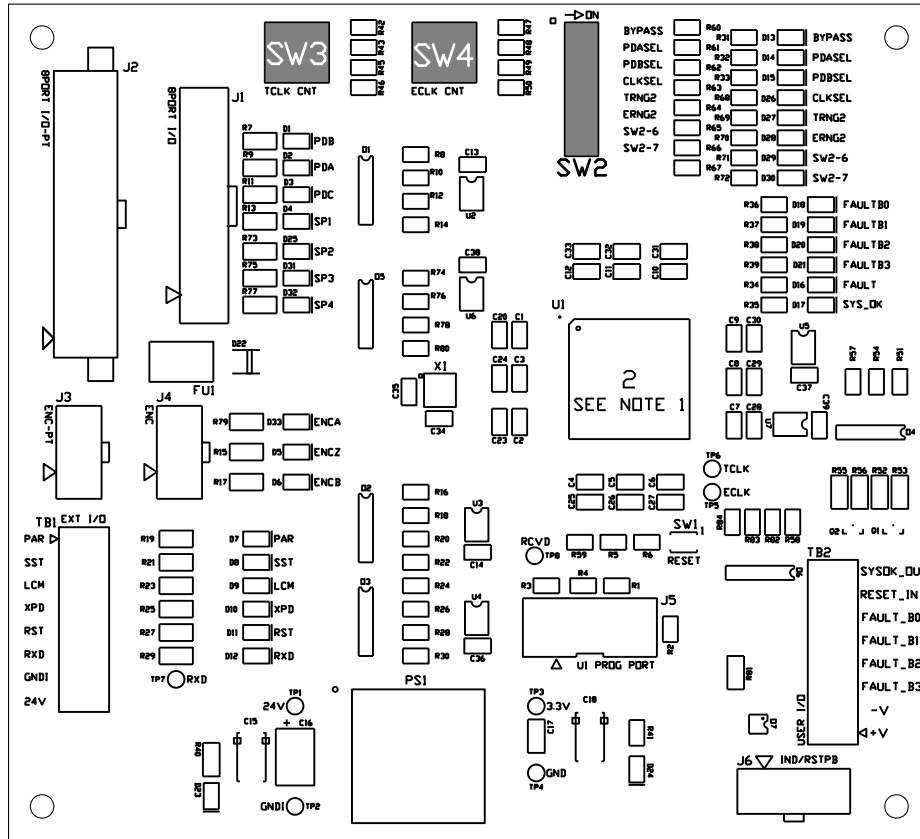
RED – A fault condition has occurred. Check Fault Indicator Bits to determine fault.

RESET – Press button to clear fault indicator bits.

### Electrical Specifications

POWER - 24VDC, 1A max.

# Switch Settings



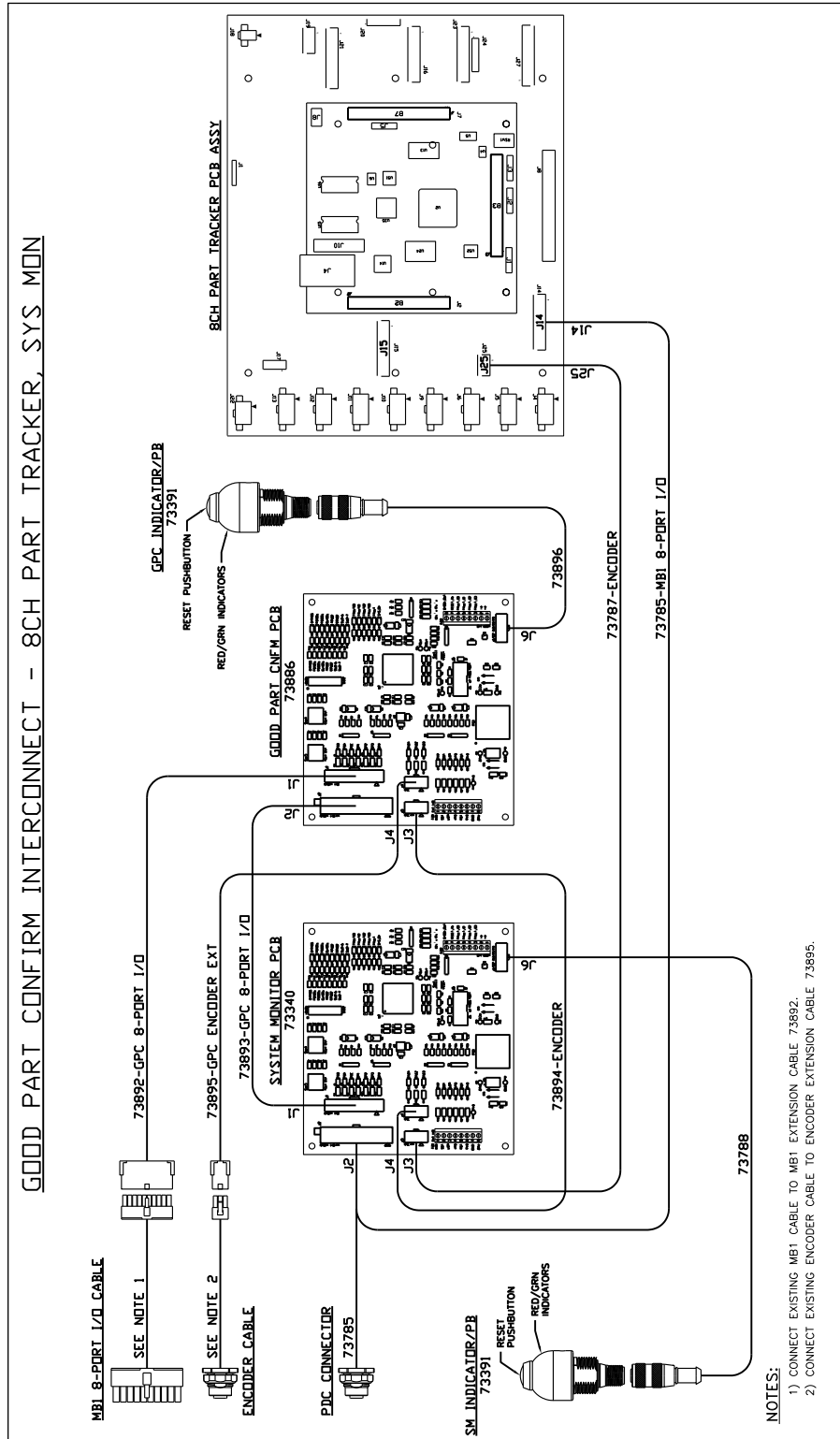
| SW2 - System Monitor Options - The default setting for SW2 = ALL OFF |        |  |                                     |
|--|--------|--|-------------------------------------|
| SW2  | Label  | OFF                                    | ON                                  |
| 1  | BYPASS | Not used                               | Not used                            |
| 2  | PDASEL | Not used                               | Not used                            |
| 3  | PDBSEL | Not used                               | Not used                            |
| 4  | CLKSEL | Use external encoder signal            | Use internal encoder signal (10kHz) |
| 5  | TRNG2  | Not used                               | Not used                            |
| 6  | ERNG2  | Not used                               | Not used                            |
| 7  | SW2-6  | Monitor signals when online or offline | Monitor signals when online only    |
| 8  | SW2-7  | Disable calibration mode               | Enable calibration mode             |

**SW3** – TCLK\_CNT – Coarse adjustment of the encoder delay from the Good Part signal to the Part Detect signal. Each increment of this switch increases the shift register delay by 64 encoder pulses.

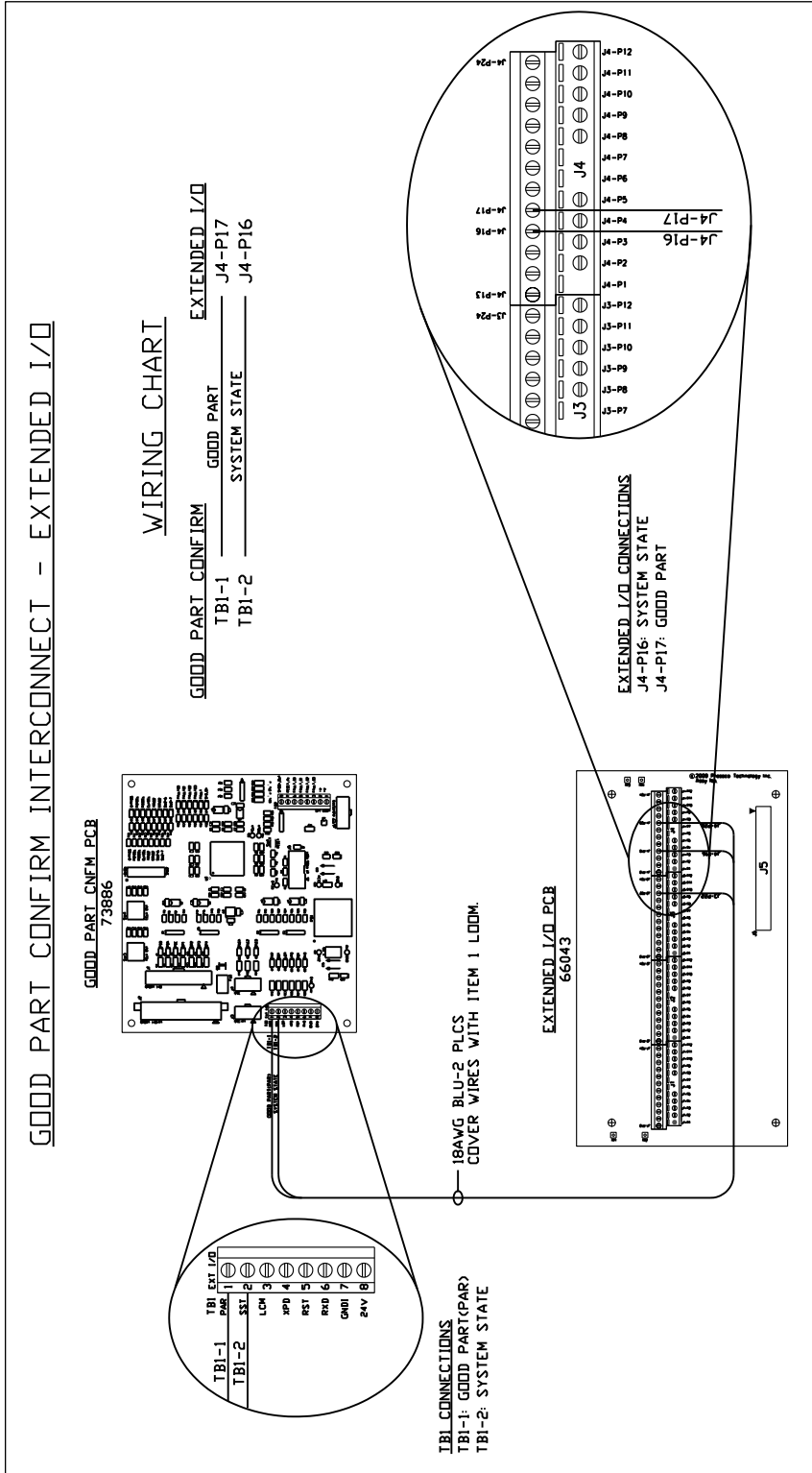
**SW4** – ECLK\_CNT – Fine adjustment of the encoder delay from the Good Part signal to the Part Detect signal. Each increment of this switch increases the shift register delay by 4 encoder pulses.

# Wiring Diagrams

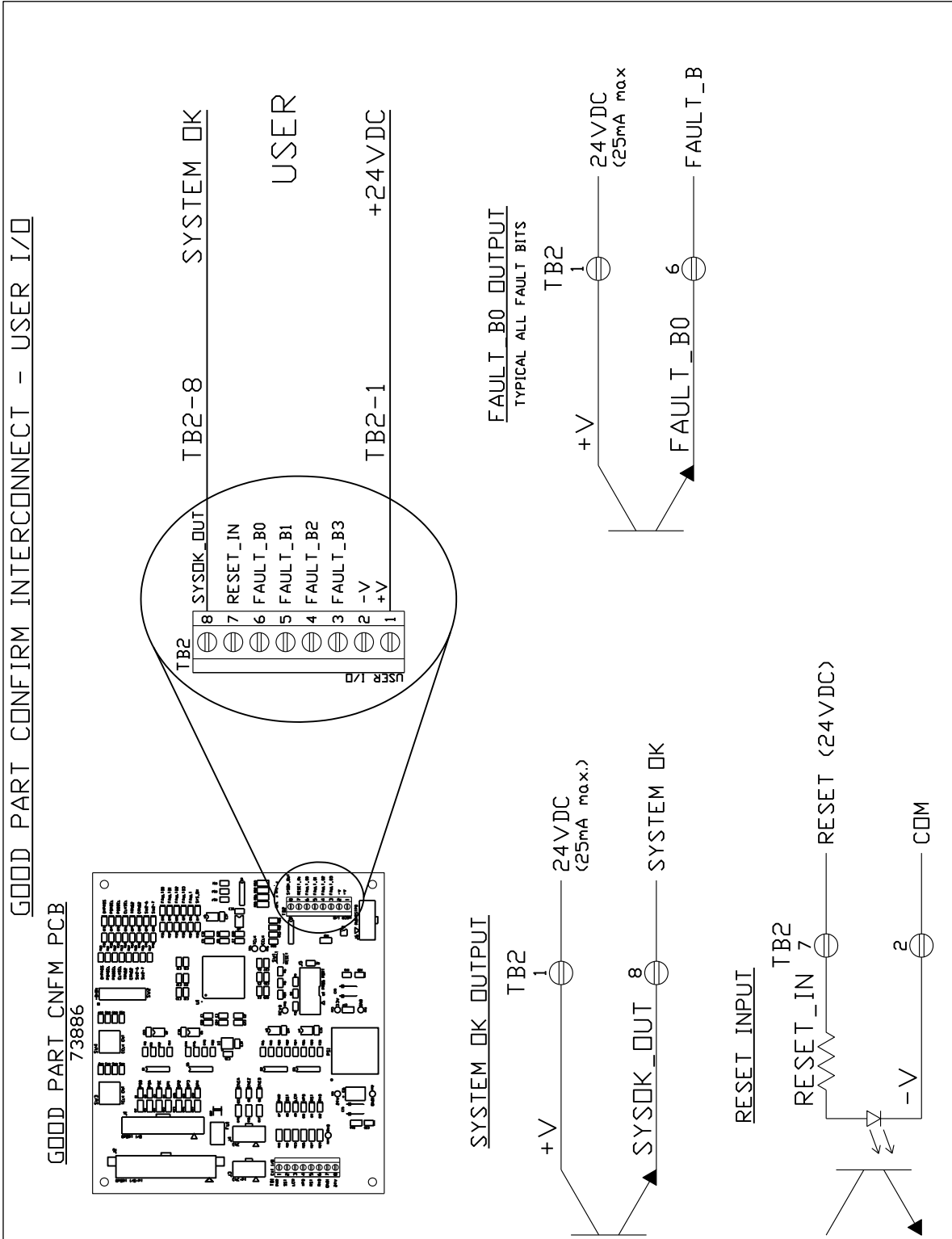
## Good Part Confirm Interconnect - 8 Channel Part Tracker, System Monitor



# Good Part Confirm Interconnect - Extended I/O



# Good Part Confirm Interconnect - User I/O



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