

## **Standard PowerCore**

## Panel I/O Pin Out Comparison

21 Pin Deutsch Connector Assignments are the same for all PowerCore products.

| Pin | ML2000, ML1000, TEC-10                         |  |  |
|-----|--|--|--|
| Α   | Reserved                                       |  |  |
| В   | Battery (+)                                    |  |  |
|     | Dedicated Input                                |  |  |
| С   | Reserved                                       |  |  |
| D   | Starter / Crank                                |  |  |
|     | 10 amp. B (+) Relay 1                          |  |  |
| E   | Battery (-) Ground                             |  |  |
|     | Dedicated Input                                |  |  |
| F   | Reserved                                       |  |  |
| G   | Fuel / ECU Enable                              |  |  |
|     | 10 amp. B (+) Relay 2                          |  |  |
| Н   | Reserved                                       |  |  |
| J   | Alternator Excite                              |  |  |
|     | 10 amp. (MPC20), 1 amp. B (+) (MPC10 & TEC-10) |  |  |
| 17  | Dedicated Digital Output                       |  |  |
| K   | Reserved                                       |  |  |
| L   | Reserved                                       |  |  |
| М   | Reserved                                       |  |  |
| N   | Reserved                                       |  |  |
| Р   | Reserved                                       |  |  |
| R   | Throttle Decrease (AT03069)                    |  |  |
|     | 1 amp. B (-) Digital Out 3                     |  |  |
| S   | Throttle Increase (AT03069)                    |  |  |
|     | 1 amp. B (-) Digital Out 3                     |  |  |
| Т   | Frequency                                      |  |  |
|     | Dedicated Input                                |  |  |
| U   | J1939 CAN LO                                   |  |  |
|     | Dedicated In                                   |  |  |
| V   | J1939 CAN HI                                   |  |  |
|     | Dedicated Input                                |  |  |
| W   | Temp. Sender (resistive)                       |  |  |
|     | Analog In 2                                    |  |  |
| Х   | Press. Sender (resistive)                      |  |  |
|     | Analog In1                                     |  |  |

## 31 Pin Deutsch Connector assignments

| 31-Pin | ML2000                          | ML1000                                     | TEC-10                          |
|--------|---------------------------------|--|---------------------------------|
| 1      | 4-20mA Return (loop power)      | 4-20mA Return (loop power)                 | Not Available                   |
|        | B (+) Dedicated Output          | B (+) Dedicated Output                     |                                 |
| 2      | Common Alarm                    | Reserved                                   | Reserved                        |
|        | 10 amp. B (+) N.C. Relay 3      |  |                                 |
| 3      | Reserved                        | Reserved                                   | Reserved                        |
| 4      | Pre-Start                       | Reserved                                   | Reserved                        |
|        | 10 amp. (dry) N.C. Relay 6      |  |                                 |
| 5      | Shutdown                        | Reserved                                   | Reserved                        |
|        | 10 amp. B (-) N.C. Relay 4      |  |                                 |
| 6      | Shutdown                        | Reserved                                   | Reserved                        |
|        | 10 amp. B (-) N.O. Relay 4      |  |                                 |
| 7      | Pre-Start                       | Reserved                                   | Reserved                        |
|        | 10 amp. (dry) N.O. Relay 6      |  |                                 |
| 8      | Common Alarm                    | Reserved                                   | Reserved                        |
|        | 10 amp. B (+) N.O. Relay 3      |  |                                 |
| 9      | Discharge / Suction Pressure    | Spare                                      | Spare                           |
|        | Analog In 3                     | Analog In 3                                | Analog In 3                     |
| 10     | Pump High Temperature           | Reserved                                   | Reserved                        |
|        | Analog In 5                     |  |                                 |
| 11     | Pre-Start                       | Reserved                                   | Reserved                        |
| 40     | 10 amp. (dry) COM. Relay 6      | December                                   | December                        |
| 12     | Ambient Temp. Auto Start        | Reserved                                   | Reserved                        |
| 40     | Analog In 7                     | NI-4 Se Assis                              | NI-4 in Aut-                    |
| 13     | Not in Auto                     | Not in Auto                                | Not in Auto                     |
| 14     | 2 amp. B (+) Digital Out 3      | 1 amp. B (+) Digital Out 1 Float Auto Stop | 1 amp. B (+) Digital Out 1      |
| 14     | Float Auto Stop<br>Digital In 3 | Digital In 3                               | Float Auto Stop<br>Digital In 3 |
| 15     | Not Configured                  | Reserved                                   | Reserved                        |
| 10     | 2 amp. 5 Volt B (+) Digital Out | Reserved                                   | Reserved                        |
|        | 1                               |  |                                 |
| 16     | Not Configured                  | Reserved                                   | Reserved                        |
|        | 2 amp. 5 Volt B (+) Digital Out | Nocorvod                                   | 110001100                       |
|        | 2                               |  |                                 |
| 17     | Clutch                          | Not Configured                             | Not Configured                  |
|        | 10 amp. (dry) COM Relay 5       | 10 amp. (dry) COM Relay 3                  | 10 amp. (dry) COM Relay 3       |
| 18     | Clutch                          | Not Configured                             | Not Configured                  |
|        | 10 amp. (dry) N.C. Relay 5      | 10 amp. (dry) N.C. Relay 3                 | 10 amp. (dry) N.C. Relay 3      |
| 19     | Clutch                          | Not Configured                             | Not Configured                  |
|        | 10 amp. (dry) N.O. Relay 5      | 10 amp. (dry) N.O. Relay 3                 | 10 amp. (dry) N.O. Relay 3      |
| 20     | Low Lube Oil Level              | Low Lube Oil Level                         | Low Lube Oil Level              |
|        | Digital In 5                    | Digital In 5                               | Digital In 5                    |
| 21     | Reserved                        | Spare                                      | Spare                           |
|        | Digital In 1                    | Digital In 1                               | Digital In 1                    |
| 22     | Water in Fuel                   | Reserved                                   | Reserved                        |
|        | Digital In 6                    |  |                                 |
| 23     | Float Auto Start                | Float Auto Start                           | Float Auto Start                |
|        | Digital In 2                    | Digital In 2                               | Digital In 2                    |
| 24     | Engine Running                  | Engine Running                             | Engine Running                  |
|        | 2 amp. B (+) Digital Out 4      | 1 amp. B (+) Digital Out 2                 | 1 amp. B (+) Digital Out 2      |
| 25     | Reserved                        | Reserved                                   | Reserved                        |
| 25     | Analog In 8                     | Kezervea                                   | Reserved                        |
|        | Analog III o                    |  |                                 |

1/18/2023

| 26 | System Level           | Reserved               | Sender Common          |
|----|------------------------|------------------------|------------------------|
|    | Analog In 4            |                        | B (-) Dedicated Output |
| 27 | Sender Common          | Sender Common          | Reserved               |
|    | B (-) Dedicated Output | B (-) Dedicated Output |                        |
| 28 | Fuel Level             | Reserved               | Reserved               |
|    | Analog In 6            |                        |                        |
| 29 | Low Coolant Level      | Low Coolant Level      | Low Coolant Level      |
|    | Analog In 4            | Analog In 4            | Analog In 4            |
| 30 | RS-485 HI              | RS-485 HI              | RS-485 HI              |
|    | Dedicated Input        | Dedicated Input        | Dedicated Input        |
| 31 | RS-485 LO              | RS-485 LO              | RS-485 LO              |
|    | Dedicated Input        | Dedicated Input        | Dedicated Input        |