Encompass® 5 Multiprotocol Reader Quick Reference Guide

**ANTENNA MULTIPLEXING/CHECK TAG PORT**
- Recommended Data Cable: 9-pin ribbon cable
- Recommended Check Tag Antenna Cable: 50-ohm coaxial cable (≤3 dB loss in cable)
- Encompass 5 jack is DB9 socket connector

**TDM/COM1 PORT**
- Recommended COM1 Port Data Cable: 20 AWG cable
- Recommended TDM Cable: Belden 89182 (outdoor-rated)
- Recommended TDM Cable: Belden 8132 (not outdoor-rated)
- Mating connector (TransCore P/N 33357-01)
- Installed on Encompass 5 jack

**COM2 PORT**
- Recommended Cable: 20 AWG cable
- Encompass 5 jack is DB9 plug connector

**ANTENNA PORT**
- Recommended Cable: 50-ohm coaxial cable
- AA3152 Universal Toll Antenna recommended
- **NOTE:** Use the RF MONO port for single-antenna installation
- **CAUTION:** Tighten antenna SMA connector to 10 in/lb only. Do not cross-thread the connectors when tightening.

**ETHERNET PORT**
- Recommended Data Cable: Belden 7929A Paired Category 5e (outdoor-rated)
- Maximum Length: 330 feet (100 m)
- RJ-45 jack

**POWER REQUIREMENTS**
- **Input Supply Voltages:** 19V DC to 30V DC or 19V AC to 27V AC RMS @47 to 63 Hz
- **Input Power:** DC or AC: 40 watts maximum
- **In-rush Current:** 8 amps (A) maximum, ≤25 milliseconds (ms)
- **Transformer:** (TransCore P/N 76-6000-001)
  - 110V AC or 220V AC input, 24V AC output
- **Power Cable:** 12-22 AWG cable
  - Mating Connector (TransCore P/N 33357-01) (1 each) and P/N 33358-01 (2 each) installed on Encompass 5 jack
- **CAUTION:** Wire gauge depends on wire resistance versus overall wire length with respect to the Encompass 5 reader's specified voltage range and power rating.
  - (See other side for Choosing a Power Supply)

**EXTERNAL DIGITAL INPUT/OUTPUT PORT**
- Data Cable: 20 AWG wire
- Mating Connector (TransCore P/N 33357-01)
- Installed on Encompass 5 jack

**GPS TIMING PORT**
- Data Cable: 20 AWG wire
- Antenna Cable: 50-ohm coaxial cable ≤12 dB @1.575 GHz
- **Pin 1**
- **Pin 5**
- **Pin 6**
- **Pin 10**

**DIAGNOSTIC TEST PORT**
- Used for factory diagnostic testing only

**POWER LEDS**
- (see other side for descriptions)

**FAULT/OPERATIONAL LEDS**
- (see other side for descriptions)

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  - (See other side for Choosing a Power Supply)
Choosing a Power Supply

Consider these factors when choosing a power supply:

1. Input voltage: 19V to 30V DC or 19V to 27V AC RMS @47 to 63 Hz, in-rush current: 8A maximum, ≤25 ms. (See Power Requirements on other side for additional Encompass 5 requirements.)
2. Operating temperature of power supply and power cable
3. Power cable gauge and length. TransCore recommends using 12 to 22 AWG cable to Encompass 5.

Power Supply Accessory Kit

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>76-6000-001</td>
<td>110V AC or 220V AC to 24V AC transformer</td>
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</tbody>
</table>

CAUTION: Wire gauge depends on wire resistance versus overall wire length with respect to the Encompass 5 reader’s specified voltage range and power rating.

Power LEDs (item 10 from other side)

<table>
<thead>
<tr>
<th>POWER LED</th>
<th>INDICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR</td>
<td>19V to 30V DC or 19V to 27V AC supplied</td>
</tr>
<tr>
<td>+5</td>
<td>15 volt power supply functioning</td>
</tr>
<tr>
<td>+10,5</td>
<td>+10.5 volt power supply functioning</td>
</tr>
<tr>
<td>+5.5</td>
<td>+5.5 volt power supply functioning</td>
</tr>
<tr>
<td>+7</td>
<td>+7 volt power supply functioning</td>
</tr>
<tr>
<td>-5.5</td>
<td>-5.5 volt power supply functioning</td>
</tr>
</tbody>
</table>

Fault/Operational LEDs (item 11 from other side)

<table>
<thead>
<tr>
<th>THREE FAULT INDICATION LEDS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERR3</td>
</tr>
<tr>
<td>●</td>
</tr>
<tr>
<td>●</td>
</tr>
<tr>
<td>●</td>
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<td>○</td>
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OPERATIONAL LEDs INDICATION

| RDR | Encompass 5 communicating with host |
| LC  | Host communicating with Encompass 5 |
| TIF | Encompass 5 transacting with tag. LED lit when Encompass 5 receives correctly decoded tag message including correct cyclic redundancy check for message. The LED is lit for 250 ms following a tag transaction. |
| UL  | RF uplink signal on |
| DL  | RF downlink signal on |

*If multiple faults occur, the highest priority fault displays. For example, if the microprocessor is resetting (highest priority) and the power supply fails (second highest priority), the microprocessor fault indication displays until it is cleared.

Equipment Licensing

The user is required to obtain a Part 90 site license from the FCC to operate the unit in the United States. Access the FCC Web site at www.fcc.gov for more information.

FCC ID: FIHMPI6000A

Users in all countries should check with the appropriate local authorities for licensing requirements.

Start Up

Perform the following startup procedures:
1. Connect antenna to Encompass 5 at RF MONO port.
2. Connect COM1 or Ethernet cable depending on communication configuration.
3. Connect other options as needed.
4. Connect AC or DC power to Encompass 5. Power LEDs should light.
5. Set commands as required for your application.
6. Send Set Mode command to Encompass 5 from host.

Troubleshooting

Perform these troubleshooting procedures:
1. Make sure all connectors are secure.
2. Make sure Encompass 5 is powered up by checking Power LEDs.
3. Make sure Encompass 5 is communicating with host.
4. If system does not respond to troubleshooting, contact TransCore Customer Service at transcore.com/rfidsupport.

For support, contact TransCore Customer Service at transcore.com/rfidsupport