1 **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)

2 **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

3 **COM2 PORT**
Recommended Cable: 20 AWG cable

4 **ANTENNA PORT**
Recommended Cable: 50-ohm coaxial cable
Recommended Antenna: AA3152 Universal Toll Antenna

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

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

7 **EXTERNAL DIGITAL INPUT/OUTPUT PORT**
Data Cable: 20 AWG wire
Mating Connector: TransCore P/N 33357-01

8 **GPS TIMING PORT**
Data Cable: 20 AWG wire
Antenna Cable: 50-ohm coaxial cable ≤12 dB @1.575 GHz

9 **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 33356-01 (1 each ) and P/N 33358-01 (2 each)

CAUTION: Wire gauge depends on wire resistance versus overall wire length with respect to the Encompass 6 reader’s specified voltage range and power rating.
(See Page 2 for AC power supply wiring.)

10 **Power LEDs**
See Page 2 for descriptions.

11 **FAULT/OPERATIONAL LEDs**
See Page 2 for descriptions.
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 Page 1 for additional Encompass 6 requirements)

2. Operating temperature of power supply and power cable

3. Power cable gauge and length: 12 to 22 AWG cable, depending on length of cable route

### Power Supply Accessory Kit

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

**CAUTION**: Wire gauge depends on wire resistance versus overall wire length with respect to the Encompass 6 reader’s specified voltage range and power rating.

### AC Power Wiring Diagram

Refer to Encompass Reader System Guide for DC Power Wiring Diagram.

### Power LEDs

- **POWER LED**
  - -5.5: -5.5 volt power supply functioning
  - +7: +7 volt power supply functioning
  - +5.5: +5.5 volt power supply functioning
  - +10.5: +10.5 volt power supply functioning
  - +5: +5 volt power supply functioning
  - PWR: 19V to 30V DC or 19V to 27V AC supplied

### Fault/Operational LEDs

- **OPERATIONAL LEDs**
  - DL: RF downlink signal on
  - UL: RF uplink signal on
  - TIF: Encompass 6 transacting with tag. LED lit when Encompass 6 receives correctly decoded tag message including correct cyclic redundancy check for message. The LED is lit for 250 ms following a tag transaction.
  - LC: Host communicating with Encompass 6
  - RDR: Encompass 6 communicating with host

### Three Fault Indication LEDs*

<table>
<thead>
<tr>
<th>ERR3</th>
<th>ERR2</th>
<th>ERR1</th>
<th>FAILURE MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>Microprocessor resetting</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>Power supply failure</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>Transceiver failure</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>TDM/GPS failure</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>No communication with lane controller/host</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>Other failure</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>Data in buffer</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>●</td>
<td>No failure</td>
</tr>
</tbody>
</table>

*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](http://www.fcc.gov) for more information.

**FCC ID**: F1HMP16000 A

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 6 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 6. Power LEDs should light.
5. Encompass 6 starts up in Mode 0 (Stop).
6. Set commands as required for your configuration.
7. Send Set Mode command to Encompass 6 from host.

### Troubleshooting

Perform these troubleshooting procedures:

1. Make sure all connectors are secure.
2. Make sure Encompass 6 is powered up by checking Power LEDs.
3. Make sure Encompass 6 is communicating with host.
If system does not respond to troubleshooting, contact TransCore Customer Service at transcore.com/rfidsupport.

For more information:

**Sales Support** 800.923.4824  
**Technical Support** 505.856.8007  
transcore.com