# Encompass® 6 Multiprotocol Reader Quick Reference Card

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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 6 jack is DB9 socket connector

Pin 9
Pin 1
Pin 2

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)
Installed on Encompass 6 jack
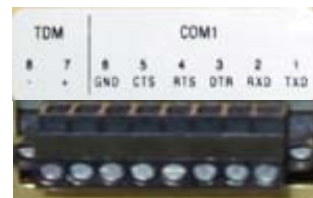
3

COM2 PORT
Recommended Cable: 20 AWG cable
Encompass 6 jack is DB9 plug connector

Pin 9
Pin 1
Pin 2
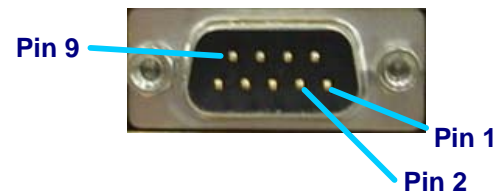
4

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
connector when tightening

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

11

FAULT/OPERATIONAL LEDs
(see other side
for descriptions)

10

POWER LEDs
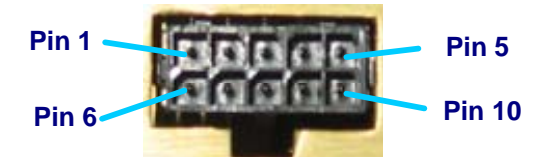(see other side
for descriptions)
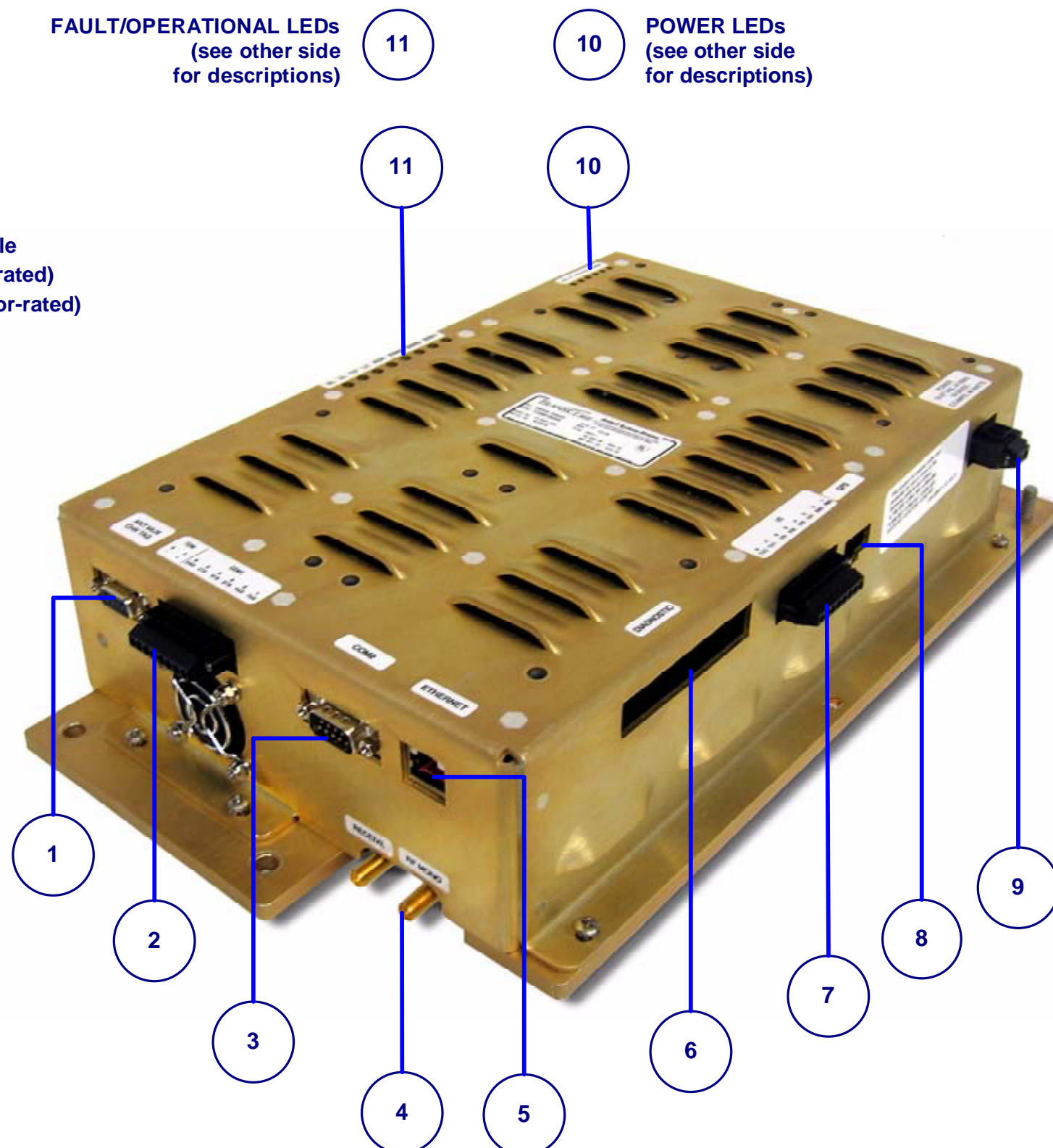
6

DIAGNOSTIC TEST PORT
Used for factory diagnostic testing only

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EXTERNAL DIGITAL INPUT/OUTPUT PORT
Data Cable: 20 AWG wire
Mating Connector (TransCore P/N 33357-01)
Installed on Encompass 6 jack

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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

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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) installed
on Encompass 6 jack

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 other side for AC power supply wiring.)

CAUTION:
Loosen mounting screws before
removing plug.

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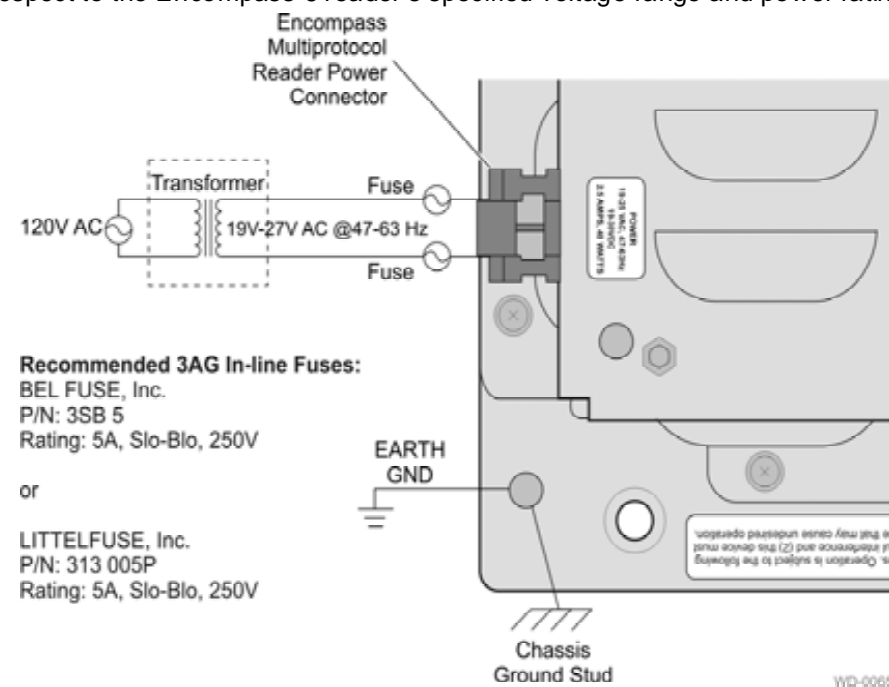
Choosing a Power Supply

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 6 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 6.

Power Supply Accessory Kit

Part Number	Description
76-6000-001	110V AC or 220V AC to 24V AC transformer

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.

Encompass Multiprotocol Reader Power Connector

Transformer
Fuse
120V AC
19V-27V AC @47-63 Hz
Fuse

Recommended 3AG In-line Fuses:
BEL FUSE, Inc.
P/N: 3SB 5
Rating: 5A, Slo-Blo, 250V

or

LITTELFUSE, Inc.
P/N: 313 005P
Rating: 5A, Slo-Blo, 250V

EARTH GND

Chassis Ground Stud

WD-0065

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

Power LEDs (item 10 from other side)

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

Fault/Operational LEDs (item 11 from other side)

THREE FAULT INDICATION LEDs*			
ERR3	ERR2	ERR1	FAILURE MODE
●	●	●	Microprocessor resetting
●	●	○	Power supply failure
●	○	●	Transceiver failure
●	○	○	TDM/GPS failure
○	●	●	No communication with lane controller/host
○	●	○	Other failure
○	○	●	Data in buffer
○	○	○	No failure

OPERATIONAL LEDs	INDICATION
RDR	Encompass 6 communicating with host
LC	Host communicating with Encompass 6
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.
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.

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 support, contact TransCore at transcore.com/rfidsupport