

# Encompass® 4H

## RFID Reader

TransCore's Encompass® 4H is a fully integrated, self-contained wireless radio frequency identification (RFID) reader designed for use in unlicensed FCC or ETSI operating environments. This high performance RFID reader is ideal for an array of applications including parking and security access, electronic vehicle registration (EVR), traffic management, rail automatic equipment identification (AEI), and low-speed electronic toll collection.

The Encompass 4H reader offers multiple I/O interfaces and either RS-232 or RS-422 communications. The reader is compatible with eGo®, SeGo, and ATA protocols as well as Wiegand formatted tags and identification cards, for use with existing systems.

All Encompass 4H readers provide unparalleled flexibility by offering expanded tag read buffering, software controlled RF power, and system integrity checking.

Encompass 4H readers can be easily installed, tested, and maintained by authorized personnel. The Encompass 4H reader also offers backward compatibility with TransCore's SmartPass®, Encompass 2, Encompass 4, and AI1611 readers.



### Features

- ▶ Multiprotocol
- ▶ Fixed mount, integrated package with weather-resistant enclosure for indoor and outdoor operation
- ▶ FCC or ETSI band operation
- ▶ Tag read buffering

### Applications

- ▶ Parking and security access
- ▶ Electronic vehicle registration (EVR)
- ▶ Traffic management
- ▶ Rail automatic equipment identification (AEI)
- ▶ Low-speed electronic toll collection

# Encompass<sup>®</sup> 4H

## COMMUNICATION

### Frequency Range

**FCC:** 902-928MHz, Frequency Hopping  
920-925MHz (Hong Kong)

**ETSI:** 865.7-867.5MHz, Frequency Hopping

### Internal Antenna Gain

11 dBi

### RF Control

By sense input or host command

### Polarization

Linear, horizontal

### Read Range

Typical read range varies depending on tag and reader configuration and environment.

## HARDWARE FEATURES

### I/O Control

**Input:** two independent dry contact closures for sense circuits

**Output:** two independent Form-C contacts

### Communication Port

RS-232 with Wiegand or RS-422 with Wiegand-compatible host interface

## POWER REQUIREMENTS

### Input Power

16 to 20V AC, 47 to 63 Hz, or 16 to 28V DC

### RF Output Power (EIRP)

4W maximum to 1W minimum, selectable in 1dB steps

## LICENSING

Equipment license not required

## COMPLIANCE

### Safety

**FCC:** Complies with UL 60950-1

**ETSI:** Certified to IEC 60950-1 with CB scheme

### Standards

Unit complies with the following standards:

CFR 47 FCC Part 15.247 and Industry Canada RSS-247, RFID Equipment

CFR 47 FCC Parts 2 and 15B, and Industry Canada RSS-210 and RSS GEN, EMI

### ETSI Standards

EN 302 208 RFID Equipment

EN 301 489 EMC Compatibility

EN 50121-4 EMC Emission and Immunity, Railway Applications

## PHYSICAL

### Dimensions

**Size:** 15.5 x 15.5 x 3.25 in. (39.4 x 39.4 x 8.25 cm)

**Weight:** 9.5 lb (4.3 kg)

### Mounting Location

Pole or wall mount

Indoor or outdoor

### Enclosure

Tamper-resistant polycarbonate housing

## ENVIRONMENTAL

### Operating Air Temperature

-40°F to +131°F (-40°C to +55°C)

### Humidity

100% condensing

### Vibration

2.3 Grms, 5 to 2000 Hz

## COMPATIBILITY

**Super eGo:** SeGo

**eGo:** ANSI NCITS 256-2001 Part 4.2 and ISO 18000-6B standards

**ATA:** American Trucking Associations standard

## OPTIONS

### Cable Accessory Kits

Cable accessory kits allow flexibility in installing the Encompass 4H. Include the part number when ordering.

### Wall Mount Bracket

Allows adjustment in all planes when used to install the Encompass 4H on a flat surface. Include the part number 54-1620-001 when ordering.

### Training

Installation, operation, and maintenance training for authorized dealers is available through TransCore.

## DOCUMENTATION

Encompass<sup>®</sup> 4H Reader System Guide

## PART NUMBERS

**FCC:** 10-4302-NNN RS232  
10-4304-NNN RS422

**ETSI:** 10-4202-NNN RS232  
10-4204-NNN RS422

## For more information:

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