Encompass® 1d
Handheld Reader

Features

- Single-unit portable multiprotocol RFID reader and mobile computer
- Suitable for electronic vehicle registration and compliance, rail, fleet, electronic toll collection, government, airports, and parking/security access applications
- Ideal for exception-based scanning
- Reduces errors and redundant manual data entry
- Reads from these protocols:
  - ATA/AAR/ISO full frame and half frame
  - Wiegand
  - CALTRANS Title 21
- Reads from and writes to these protocols:
  - TransCore Super eGo® (SeGo)
  - eGo (ISO 18000-6B)
  - ISO 18000-6C
  - TransCore IT2000 (Allegro)
- Separate License Certificate required for tag writing requirements
- Alpha and numeric keypads standard
- WiFi 802.11 b/g and Bluetooth optional
- GSM/GPRS wide area networking optional
- TransCore supplied software[1]
  - Tag/reader demonstration
  - Application programming interface
  - Software developer's kit
- Rated for use in harsh operating environments
- Components provided in convenient kits for easy ordering

1.When RFID end cap and mobile computer are purchased from TransCore

The Encompass® 1d Handheld Reader combines TransCore's radio-frequency identification (RFID) end cap reader and DAP's CE5240 color mobile computer (models CE5240B and CE5240BWE). The handheld reader is ideal for RFID applications requiring an extended read range, multitag sorting, and memory capacity not provided by proximity technology.

TransCore's E1d handheld reader is targeted at transportation-specific applications. The E1d was designed expressly for electronic vehicle registration and compliance, rail, fleet, electronic toll collection, government, airports, and parking/security access applications. The handheld reader allows users to read and store tag information eliminating time-consuming and error prone tag data entry tasks.

The E1d reader offers users the capability of verifying tag read exceptions encountered at fixed-reader RFID sites, such as commercial, private, government, and airport parking facilities. The E1d reader's typical read range is 7 to 20 feet (2.13 to 6.1 meters) depending on the tag type being read and the operating environment. The E1d reader can write to eGo Plus tags (in SeGo mode), eGo tags, and ISO 18000-6C tags at ranges approximately 70% of read range; and IT2000 tags at 100% of read range.

The E1d can read from eGo Plus tags (in SeGo mode); eGo tags; International Organization for Standardization (ISO 18000-6C); Allegro tags; Association of American Railroads (AAR) tags, American Trucking Associations (ATA) tags, and International Organization for Standardization (ISO 10374) tags, whether programmed as full frame or half frame; and CALTRANS Title 21 tags.

A separate License Certificate (part number 25-1000-001), which TransCore provides electronically, is required to configure the Encompass 1d Reader to a customer's specific tag programming needs.

The Encompass 1d Reader is designed for easy, comfortable RFID reading and writing, yet it is rugged enough to withstand harsh working environments. Alpha and numeric keypads are standard on all models. The rechargeable lithium-ion battery pack powers the RFID reader for a typical shift of approximately 950 reads over 8 hours at normal operating conditions (ambient temperature).

If using optional wireless features, such as Global System for Mobile Communications (GSM)/ Global Packet Radio Service (GPRS), WiFi, and Bluetooth, or when operating the reader continuously in cold climates (less than 32°F (0°C)), you can expect faster battery charge depletion.

Encompass® 1d Handheld Reader

FREQUENCY
915 MHz band frequency-hopping for unlicensed operation in the United States and Canada

READ RANGES
Typical read ranges: 7 to 20 ft (2.13 to 6.1 m) (depending on tag type and operating environment)

WRITE RANGES
Typical write ranges:
eGo Plus, eGo, ISO 18000-6C tags: 70% of read range
IT2000 (Allegro) tag: 100% of read range

DATA RATE
ATA/AAR tags: 10 kbps
eGo tags: 33 to 40 kbps
eGo Plus tags: 80 kbps
ISO 18000-6C: 66 kbps (downlink), 250 kbps (uplink)
IT2000 (Allegro) tags: 300 kbps
Title 21 tags: 300 kbps

MODELS AVAILABLE
ATA/Title 21 read only

SeGo/eGo/ISO 18000-6C/ IT2000 (Allegro) read/write

HARDWARE FEATURES

Power Requirements
Rechargeable 2400 mAh lithium-ion battery pack with fast charge feature

LED
Charging status/low battery indicator

Keypad (standard)
Alphanumeric keys with separate 10-key numeric keypad (789 at top)

Integrated Scanner (optional)
1D/2D omnidirectional area imager suitable for reading bar codes and signature capture

PHYSICAL CHARACTERISTICS

Weight
Mobile computer with battery: 2.4 lb (1.09 kg)

Dimensions
Height: 1.53 in. (3.9 cm) min/3.15 in. (8.0 cm) max
Width: 3.53 in. (9.0 cm) min/4.72 in. (12 cm) max
Length: 11.61 in. (29.5 cm)

ENVIRONMENT

Operating Temperature
-4°F to 122°F (-20°C to 50°C)

Storage Temperature
-22°F to 140°F (-30°C to 60°C) with battery

Humidity
0 to 95%, relative, non-condensing

Free-Fall Drop Resistance
Meets/exceeds MIL-STD-810F method 516.5 procedure IV (26 drops from 4 ft (1.2 m) on plywood)

Environmental Ratings
Meets MIL-STD 810F method 512.4 procedure 1

IP67 (immersion 3.3 ft (1 m)) for 30 seconds

Meets MIL-STD 810F method 506.4 procedure 1 for windblown rain

COMPLIANCE

RF Interference
Units have been tested and are verified to Part 15 of the FCC rules for a Class A digital device

Safety
Mobile computer: CE approved
Ethernet office cradle: CE approved
AC power adapter: CE approved and UL listed

COMMUNICATIONS

CE5000 Client to Host (standard)
Ethernet

NETWORKING

Wireless LAN (optional)
IEEE 802.11 b/g (2.4 GHz)

Wireless PAN (optional)
Integrated Bluetooth Class 2, V2.0

Wireless WAN (optional)
GSM/GPRS

SOFTWARE/FIRMWARE FEATURES

Protocols (standard)
ATA/AAR/ISO
Wiegand (5 most popular formats)
eGo (ISO 18000-6B)
Super eGo (SeGo)
ISO 18000-6C
Intellitag 2000 (Allegro)
CALTRANS Title 21

Multitag Access (Filtering)
User-specified groups within a population of eGo or eGo Plus tags can be selected and read from using multitag access commands.

Application Programming Interface
To simplify and expedite customer application development, each E1d handheld reader purchased from TransCore includes a preloaded application programming interface (API).

Software Developer's Kit
To further assist in customer application program development, an optional software developer's kit (SDK) with SDK documentation is available upon request

Tag/Reader Demonstration Software
Preloaded TransCore application program using the available API and SDK.

- Manages interaction between mobile computer and RFID end cap reader
- Detects tag type, reads tag data, decodes and parses data (when required), and displays read data in human readable form
- Supports full frame and half frame tags and can decode ATA, standard AAR, and Wiegand encoded tags
- Provided at no additional cost on E1d readers purchased from TransCore

LICENSING

License Certificate
A separate License Certificate, provided electronically (P/N 25-1000-001) is required for configuring the customer tag writing requirements

ACCESSORIES
Accessory kit includes Ethernet office cradle, AC power adapter/charger, and Quick Start Guide

DOCUMENTATION
Encompass® 1d Quick Start Guide
Encompass® 1d Handheld Reader Software Developer's Kit Guide

Downloading a License Certificate to the Encompass® 1d Handheld Reader

For more information:

Call **214.461.6443** (Sales Support) • **505.856.8007** (Technical Support)

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