HS880B-Series Read/Write Controllers

Features

- Controls up to Four Antennas
- Antenna Cable Length up to 4000 Feet (1200 Meters)
- 3000 Bytes/Second Data Transfer–Reading and Writing
- Programmable in C Language
- HS403B Industrial I/O Board Available
- High-Speed CPU with Real-Time Clock/Calendar

Applications

- Material Handling
- Sortation Systems
- Work-in-Progress Monitoring
- Quality Control

Use With

- HS200R-Series Tags
- HS200XL-Series Tags
- HS200LR-Series Tags
- HS500-Series Antennas
- HS403B I/O Board
- HS64xB-880 Enclosures

EMS, a Datalogic Group Company, is the field-proven leader in the development and application of Radio Frequency Identification (RFID) Tags/Labels/PCBs, Antennas, Controllers and network interface modules for tough industrial environments. With over a dozen years of RFID successes in the automotive, electronics, material handling and food processing industries, EMS has built a global reputation in providing customers with complete supply chain solutions – from production to retail EMS has the complete solution!

Technical Description

The HS880B-Series Controllers incorporate high-level language capability, two fully-buffered bi-directional serial ports, a separate program/debug port, 32KB of RAM, 64 programmable TTL-level I/O points and an interface to up to four EMS HS500-Series Antennas.

The HS880B-Series Controllers utilizes programs written in the powerful "C" language, so no special "proprietary languages" need to be learned for applications development. Programs are written and compiled on a PC-compatible computer using the development package available from EMS. Once compiled, the program is downloaded into the EEPROM memory of the HS880B-Series Controllers for execution. In addition to the native functions of the C compiler, the development package includes a complete library of functions specific to the operation of the Controller. The separate program/debug port allows new programs to be downloaded to the HS880B without having to disconnect either of the two serial ports. Additionally, the program/debug port may be used to transmit status or error messages to aid program development.

The HS880B offers a high-speed CPU with a real-time clock/calendar for date stamping data critical to process control. The connection between the Controller and each Antenna is via two twisted pair wires (four wires). Using good quality shielded cable, the connection length between the Controller and Antenna can be up to 4000 feet (1200 meters).

Ten status LEDs are mounted on the front of the Controller to aid in system debug and maintenance. Each serial port has separate transmit and receive indicators, each Antenna port has a transmit indicator, and two LEDs are provided for systems error indication and power.

THE HS880B-SERIES IS THE WORKHORSE OF OUR CONTROLLER LINE

The HS403B industrial I/O board can be used to convert the TTL-level signals on the HS880B to 24 Volt DC optically-isolated industrial I/O.

The HS880B-Series Controllers can be installed in three different enclosures. The HS640B-880 is a single card enclosure giving access to 32 TTL-level I/O. The HS641B holds two cards, the Controller and one HS403B, providing 32 industrial level I/O. HS643B enclosure accepts the HS880-Series Controllers and up to two HS403B I/O boards, provides 64 industrial I/O with two HS403Bs installed.

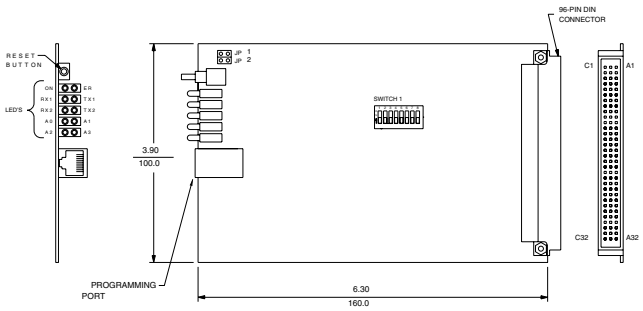
HS880B-Series Read/Write Controllers

Electrical	Supply Voltage	21-28VDC
	Maximum Current	300mA
Memory	EEPROM	2KB Used by System, 30KB Used for User Program Storage
	RAM	32KB, for User Variables and Programs
Interface With Antenna	Maximum Cable Length	4000ft. (1200m)
Input/Output	Inputs	32 TTL-Level
	Outputs	32 TTL-Level
Communication With Host	Interface Options	Two RS232 or RS422 Bi-Directional Serial Ports, One RS232 Program/Debug Port
	Baud Rate	300, 1200, 4800, 9600, 19200
	Parity	Odd, Even or None
	Data Bits	7 or 8
	Stop Bits	1
Processor	HS882	24MHz with Real-Time Clock/Calendar
Mechanical Specifications	Dimensions (W x H)	3.9 x 6.3in. (100 x 160mm)
	Connector	96-Pin DIN (32 x 3)
	Indicators	On, Error, RX, TX and Antenna LEDs
Environment	Operating Temperatures	32° to 120°F (0° to 49°C)
	Storage Temperature	-40° to 185°F (-40° to 85°C)
	Humidity	95% Non-Condensing
	Protection Class	NEMA 1 (IP30)

HS403B I/O Board

Electrical	Voltage	20-26VDC
	Maximum Current	200mA
Input/Output	16 DC Inputs	24VDC, Optically-Isolated
	16 DC Outputs	24VDC, 100mA, Optically-Isolated
Mechanical Specifications	Dimensions (W x H)	3.9 x 6.3in. (100 x 160mm)
	Connector	96-Pin DIN (32 x 3)
	Indicators	32 I/O LEDs
Environment	Operating Temperature	32° to 120°F (0° to 49°C)
	Storage Temperature	-40° to 185°F (-40° to 85°C)
	Humidity	95% Non-Condensing

Mechanical Dimensions

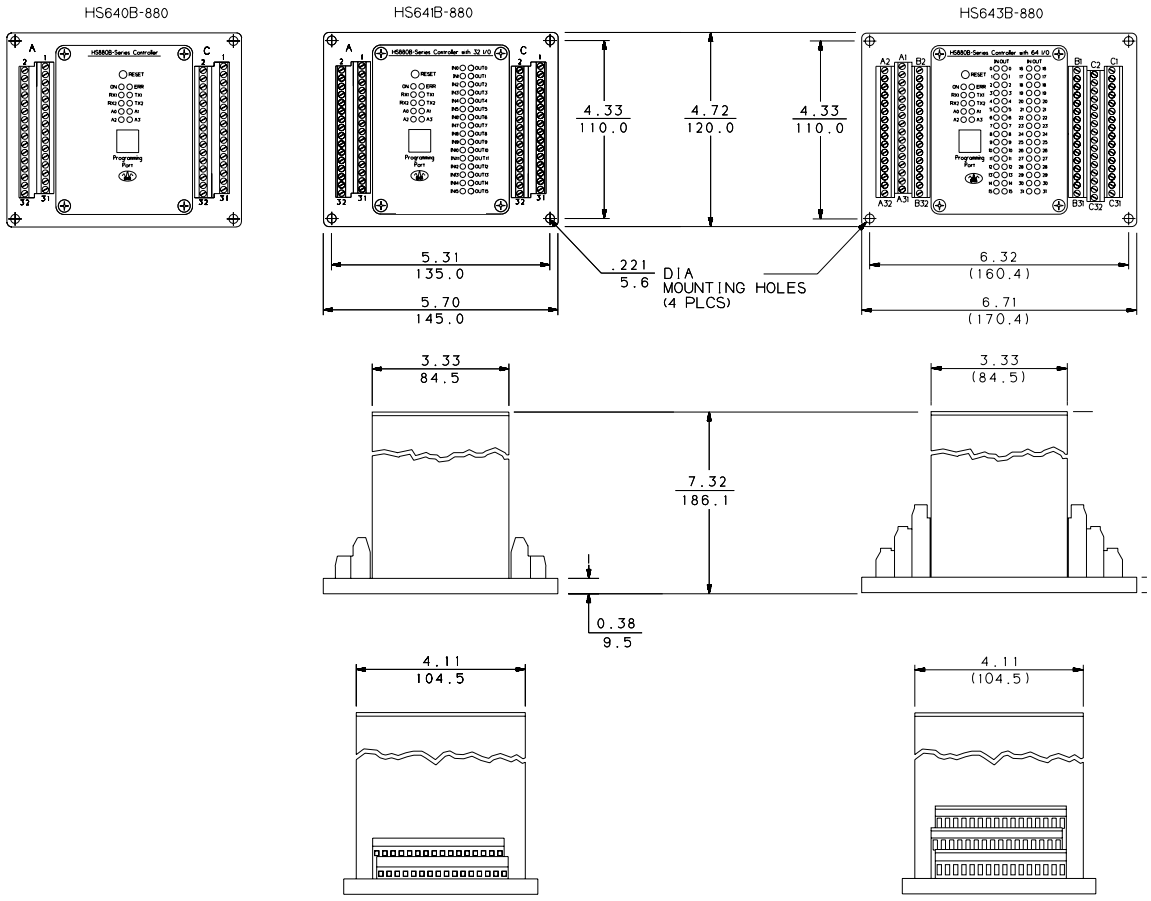


HS882B-Series Controller

inches
mm

HS403B I/O Board

Mechanical Dimensions
HS640B-880, HS641B-880, and HS643B-880 Enclosures



HS880B-Series Read/Write Controllers

Available Models

Model	Description
HS880B-4	C-Programmable Controller
HS882B-4	C-Programmable Controller with High-Speed CPU and Built-In Clock/Calendar
HL882B-4	Controller, RFID Euro, CLF, 4-Antenna (European)

Accessories

Model	Description
CBL-1150	Programming/Debug Cable with 6 Pin Modular Connector Terminating in a DE9-S Connector
HS403BH	Industrial I/O Board, for HS880B-Series Controllers, Current Sourcing
HS403BL	Industrial I/O Board, for HS880B-Series Controllers, Current Sinking
HS640B-880	Single-Card Eurocard Enclosure for Use with the HS880B-Series Controllers, Provides 32TTL-Level I/O
HS641B-880	Two-Card Eurocard Enclosure for Use with the HS880B-Series Controllers and one HS403B I/O Board, Provides 32 Industrial-Level I/O
HS643B-880	Three-Card Eurocard Enclosure for Use with the HS880B-Series Controllers and one HS403B, I/O Board Provides 64 Industrial-Level I/O
SP1008-LIB	Software Development Package for HS880B, with Libraries and Utilities
SP1014-LIB	Software Development Package for HS882B, with Libraries and Utilities
88-1001	Franklin Compiler for HS880-Series Software Development
SP1017	Interface Package for Allen-Bradley DB-A Module, Includes Custom HS882 Program, Firmware for DB-A Module and Manual
SP1016	Interface Package for Allen-Bradley DB-B Module, Includes Custom HS882 Program, Firmware for DB-B Module and Manual
10-5158	Interface Firmware for Allen-Bradley DB-A Module
10-5149	Interface Firmware for Allen-Bradley DB-B Module

Connection to EMS Antennas