

# Proximity Card Reader

Bulletin SS06044 Issue/Rev. 0.8 (9/23)

## Access Control Accessory Built for AccuLoad®

The Smith Meter® Proximity Card Reader is a radio-frequency (RF) -based reader interfaced to a microprocessor-based device capable of interpreting multiple card formats and transmitting card data to the AccuLoad or directly to an automation system.

### Applications

The Smith Meter Proximity Card Reader provides a high performance and reliable method of identifying drivers and users to either the AccuLoad or directly to an automation system. It is ideal as a gate reader or an island reader.



#### Card Reader Features

- Mounts to the front of the AccuLoad NEMA-4 (N4) or Split Architecture (SA) man-machine interface (MMI) for Division II-approved areas
- Light-emitting diode (LED) with red, green, yellow, buzzer, and relay, all of which can be remotely controlled by an automation system
- Interfaces directly with the AccuLoad or automation system
- Card authorization valid until programmable timeout expires (1 to 99 minutes)
- Uses serial communications port (EIA-232/485) and Smith protocol communications
- Available for N4, Division II-approved areas, or hazardous locations, Division I-approved areas

#### Card Features

- Universally compatible with human-interface devices (HID) readers
- External number for easy identification and control
- Custom pre-printed artwork available
- Meets ISO standards for thickness
- Approved for hazardous location operations

### Specifications

#### Electrical Inputs

Direct current (DC) instrument power:

- 24 volts direct current (VDC), 35 milliamperes (mA)
- 12 VDC, 70 mA

#### Electrical Outputs

DC output:

- Type: Optically-isolated solid state output and user programmable as to function
- Polarity: Programmable (normally open or normally closed)

Power down is normally open.

- Switch blocking voltage: 30 VDC maximum
- Load current: 150 mA maximum with 0.9 volt drop (6 ohms typical)

#### Card Interface

- Excite frequency: 125 kilohertz (kHz)
- Typical read range: Within up to 2 inches (") (5.08 centimeters (cm)) of glass

## Environment

- Ambient operating temperature: -40 to 140 °F (-40 to 60 °C)
- Humidity: 0 to 95% non-condensing

## Card Reader Approvals

### North America UL/CUL—Explosion-proof Housing

Class I, Division 1, Groups C & D, Class II, Groups E, F and G; UNL-UL Enclosure 4X, CNL-CSA Enclosure 4, IP66

Class I, Zone 1, Group IIB

Class I, Zone 1, AEx d IIB T6

Exd IIB T6 Tamb = -40 to 60 °C UL/CUL File E23545

### European ATEX—Explosion-proof Housing

Ex d IIB T6 Gb, IP66 DEMKO 03 ATEX 0252381

### Global: IECEx—Explosion-proof Housing

Ex d IIB T6 Gb, IP66 Tamb = -40 to 60 °C IECEx UL 14.0046

Brazil: UL/INMETRO - Explosion-proof housing

Ex d IIB T6 Gb, IP66 Tamb = -40 to 60 °C UL-BR 19.0124

### North American UL/CUL—N4 Housing

Class I, Division 2, Groups C&D, Class I, Zone 2, Group IIB, UNL-UL ENCL. 4X, CNL-CSA ENCL. 4

## Electromagnetic Compatibility

Complies with the European Community Electromagnetic Capabilities (CE Mark) requirements as per European Directive 2014/30/EU.

## Communications

### General

- Configuration: EIA-485 four-wire (or two-wire) multidrop network or EIA-232 three-wire communications link
- Data rate: Programmable asynchronous data (baud) rate of 2400, 4800, 9600, or 19,200 bits per second (bps)
- Data format: Fixed at one start bit, one stop bit, eight data bits, no parity

- Line protocol: Half-duplex, full-duplex, no character echo
- Protocol: Smith Meter ASCII LRC

### EIA-232

- Type: Interfaceable with EIA-232 data communication standards
- Data transmitters are tri-state design
- Up to eight devices can be connected to the same transmit and receive data lines

### EIA-485

- Type: Interfaceable with EIA-485 data communication standards
- Number of units per communication line: Up to 16 devices can be connected to the same transmit and receive data lines

## Card Specifications

The typical read range is within 2" (5.08 cm) of glass.

Card specifications are dependent on the installation conditions, as follows:

- Dimensions: 2.1" (5.4 cm) by 3.4" (8.6 cm) typical
- Operating temperature: -40 to 160 °F (-40 to 70 °C)
- Weight: 0.24 ounce (oz) (6.8 g)
- Identification (ID) numbers: Five digits
- Options: Custom artwork, one side only (text or graphics); contact the factory for details

## Card Approvals

Approved, certified, listed hazardous location cards are only available from TechnipFMC.

### European

- Ex ib IIB T6 Gb Tamb = -40 to 60 °C DEMKO 03 ATEX 0252381

### Global: IECEx

- Ex ib IIB T6 Gb Tamb = -40 to 60 °C IECEx UL 14.0046

## Brazil: UL/INMETRO

- Ex ib IIB T6 Gb Tamb = -40 to 60 °C UL-BR 19.0124

## North America

- Intrinsically safe card for use in Class I, Division 1, Groups C and D, Class II, Groups E, F, and G; Class I, Zone 1, AEx ib IIB T6; Class I, Zone 1, Ex ib II B T6

## Proximity Card Reader Modeling

1	2
PCR	N4

### Position 1: Modeling Designation

PCR—Proximity card reader

### Position 2: Housing

XP—UL/CUL, ATEX, and IECEx

XB—UL Brazil

N4—UL/CUL

## Proximity Card Modeling

1	2	3	4	5
PC	IS	STD	007	00000

### Position 1: Modeling Designation

PC—Proximity card

PB—Proximity card for Brazil

### Position 2: Intrinsically Safe

IS—Intrinsically safe

### Position 3: Printing

STD—Blank

CF—Custom artwork

### Position 4: Facility Code

000 to 255 (default 007)

### Position 5: Starting Card Number

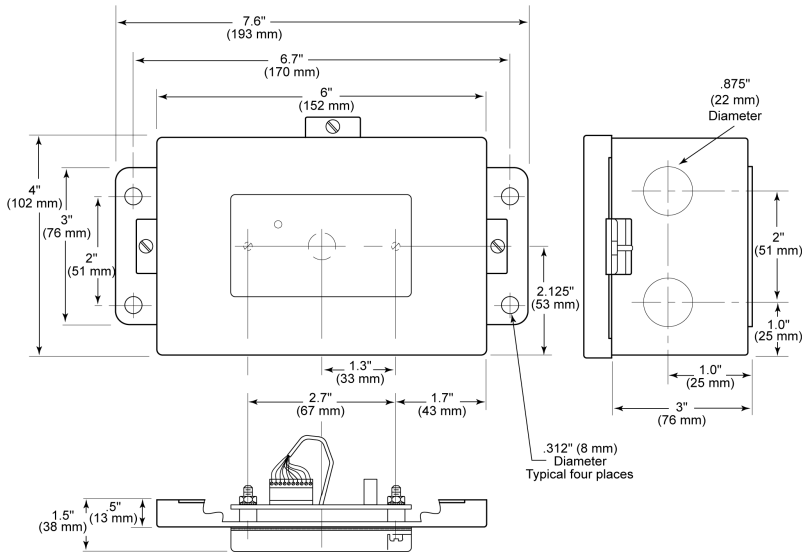
00000 to 65535 (default 00000)

**Note:** Order must specify the starting card number to avoid receiving cards that could be duplicates of previously procured cards. Optionally, order can specify an alternate facility code. A minimum order of 50 cards is required for custom artwork, or non-default values for facility code or starting card number.

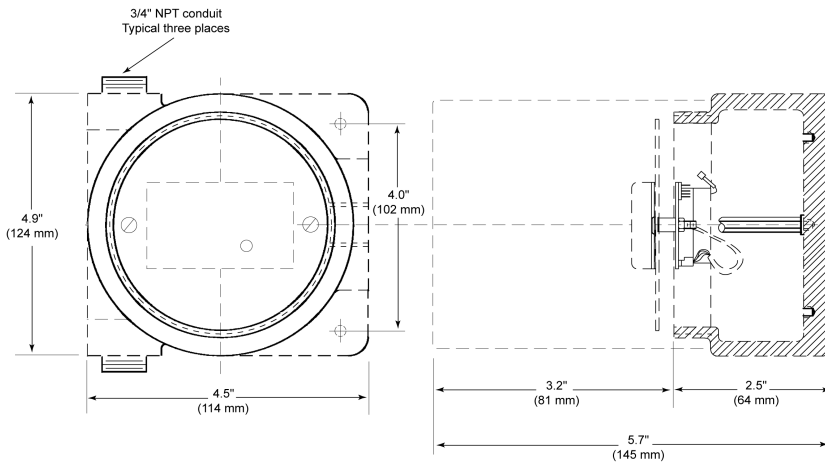
## Dimensions

The dimensions in the following drawings are shown in inches (") to the nearest tenth (millimeters (mm) to the nearest whole mm), each independently dimensioned from respective engineering drawings.

### General Purpose N4 Card Reader



### Explosion-proof Card Reader



The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacture that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

USA Operations  
1602 Wagner Avenue  
Erie, PA 16510 USA  
+1 814.898.5000

TechnipFMC Corporate Headquarters  
13460 Lockwood Road  
Building S01  
Houston, TX 77044 USA  
+1 281.591.4000

Germany Operations  
Smith Meter GmbH  
Regentstrasse 1  
25474 Ellerbek, Germany  
+49 4101 304.0