



A new generation of access control.

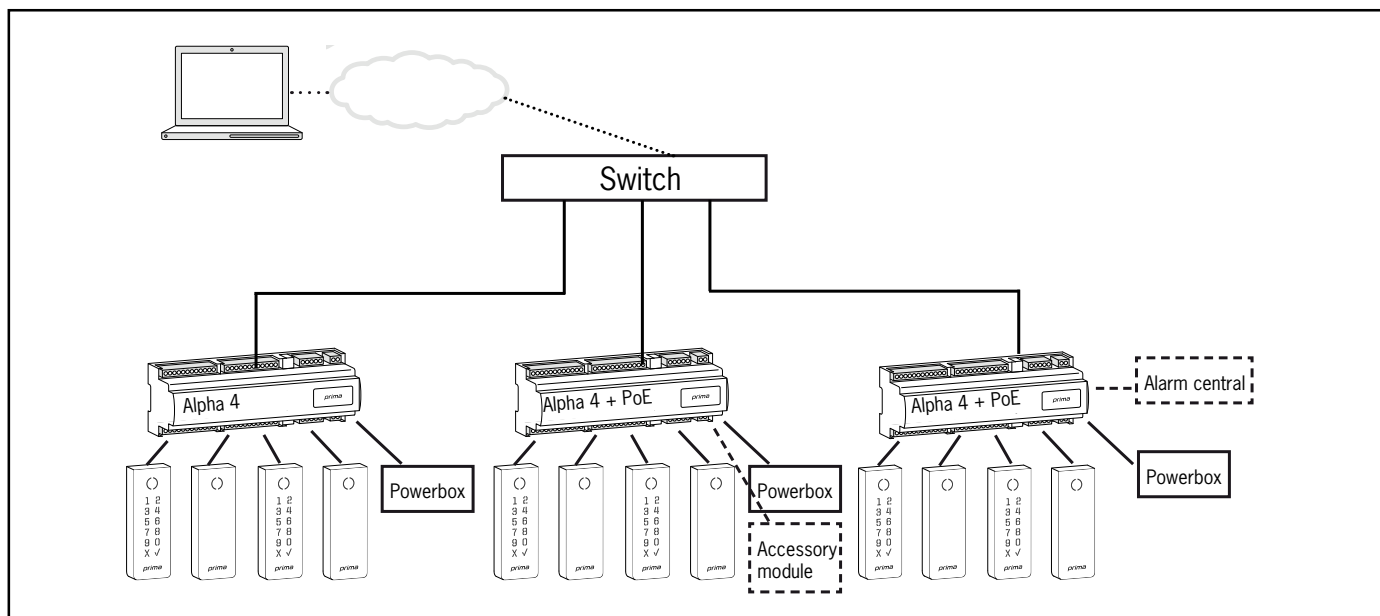


2 or 4 Door Expandable Controller INSTALLATION MANUAL



Installation Diagram

Installation overview:



Cable specifications and distances

Cable type and max. distance for an eventual RS485 BUS between Alpha centrals: 1 UTP cable 4 x 2 AWG23 (0.6 mm) Cat. 6 or UTP cable is a 4 x 2 AWG24 (0.5 mm) Cat. 5 type - max. distance 1000 m

Distance from Alpha central to online door and cable type				
	→ 164 ft	→ 246 ft	→ 328 ft	→ 656 ft
Nexus reader (RA/RB, Supply, RE & DM)	In a UTP Cat. 6 ¹ or a UTP cat. 5 ² cable - 1 pair for RA/RB, 1 pair for + and ÷ 1 pair for RE and 1 pair for DM.	In a UTP Cat. 6 ¹ or a UTP cat. 5 ² cable - 1 pair for RA/RB, 1 pair for + and ÷ 1 pair for RE and 1 pair for DM.	In a UTP Cat. 6 cable ¹ - 1 pair for RA/RB, 1 pair for +, 1 pair for ÷ and 1 pair left for RE or DM. If both functions are needed free pairs in the lock cable can be used. In a UTP Cat. 5 cable ² - 1 pair for RA/RB, 1.5 pair for + and 1.5 pair for ÷. If RE or DM functions are needed free pairs in the lock cable can be used.	In a UTP Cat. 6 cable ¹ - 1 pair for RA/RB, 1 pair for +, 1 pair for ÷ and 1 pair left for RE or DM. If both functions are needed an extra cable has to be used. In two UTP Cat. 5 cables ² - 1 pair for RA/RB, 1 pair for RE and 1 pair for DM in cable no. 1 as well as 2 pairs for + and 2 pairs for ÷ in cable no. 2.
Lock type: electrical strike - consumption 200 mA	In a UTP Cat. 6 ¹ or a UTP cat. 5 ² cable - 1 pair for + and ÷ (this can be the same cable as the reader if there is a free pair).	In a UTP Cat. 6 ¹ or a UTP cat. 5 ² cable - 1 pair for + and ÷ (this can be the same cable as the reader if there is a free pair).	In a UTP Cat. 6 ¹ or a UTP cat. 5 ² cable - 1 pair for + and 1 pair for ÷.	In a UTP Cat. 6 ¹ or a UTP cat. 5 ² cable - 2 pairs for + and 2 pairs for ÷.

- 1 The recommended UTP cable is a 4 x 2 AWG23 (0.6 mm) Cat. 6 type
- 2 The recommended UTP cable is a 4 x 2 AWG24 (0.5 mm) Cat. 5 type

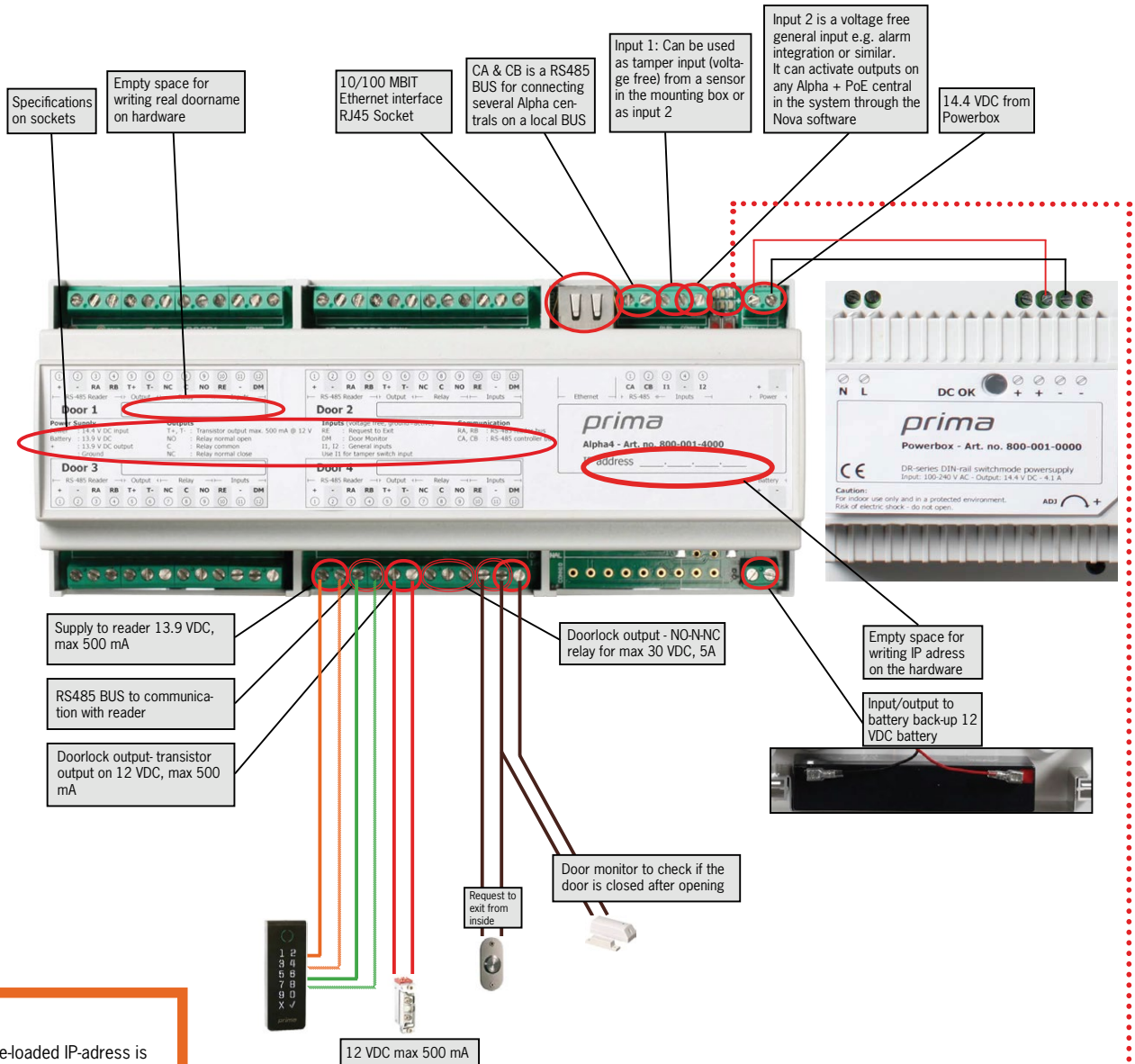
Note a The calculations of voltage drop are based on an output from the back-up battery on 12 VDC. During normal operation on 230 VAC the central supply the lock and the lock with 13.9 V.

Note b Wiring for most door phones can also be included in the same UTP cable as the reader or the lock if there are free pairs available.

DIN-rail mounting box with Alpha Central, Powerbox and back-up battery:



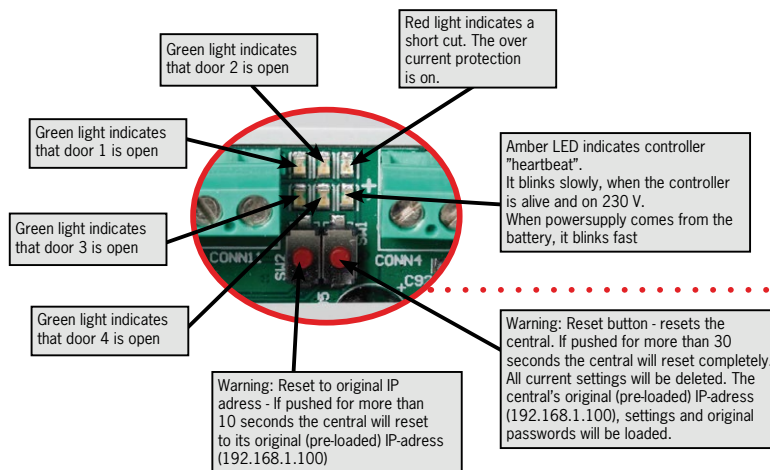
Installation diagram for Alpha 2 and 4 door centrals (incl. installation of a "standard" Nexus reader)



Important:

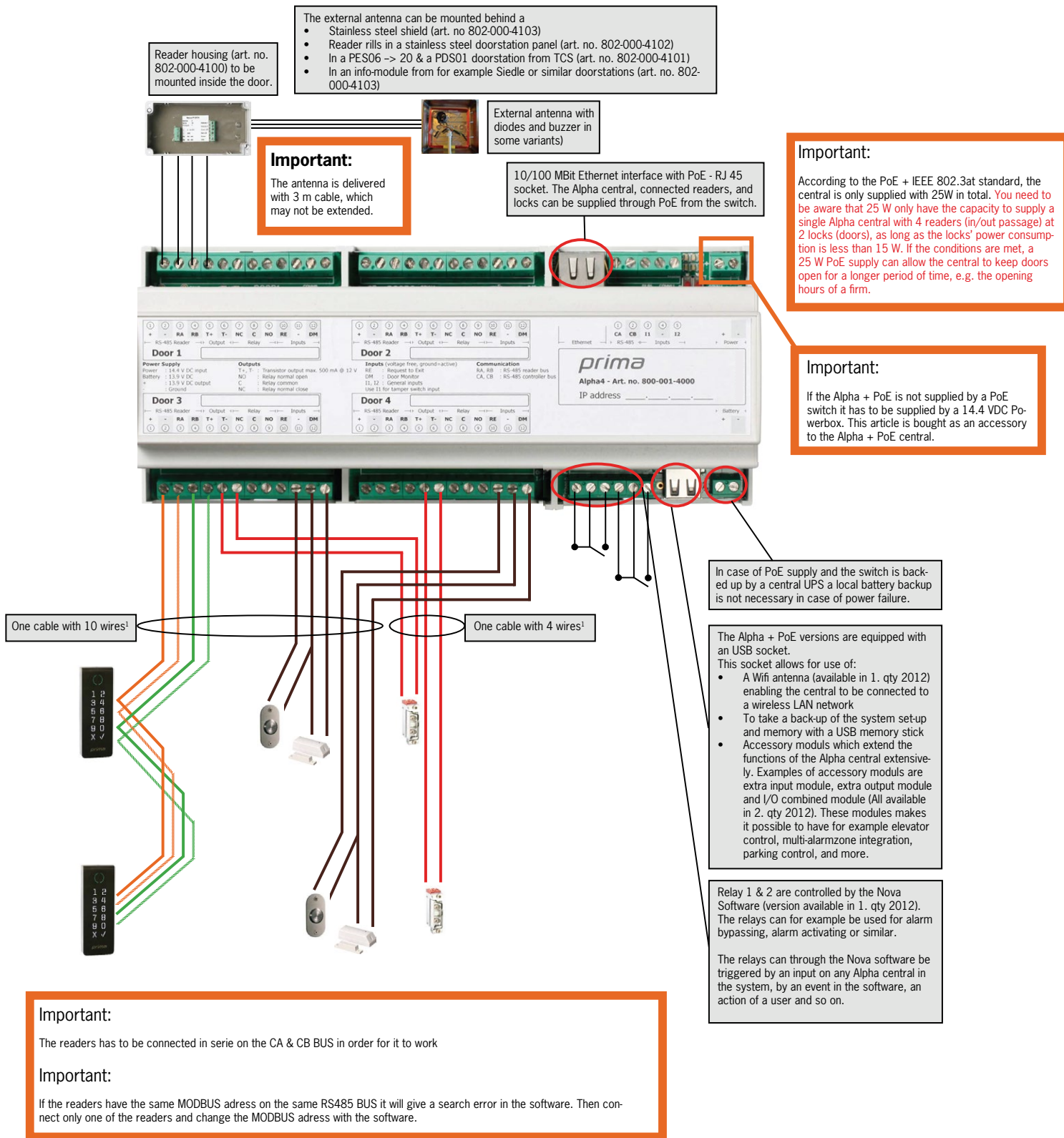
The central's pre-loaded IP-address is written on the sticker on the backside of the central

BEFORE installation please contact your IT/network administrator to get usable IP-addresses



Installation diagram for Alpha 2 or 4 + PoE centrals

+ installation of 2 readers in one cable and a Nexus P reader with external antenna



Product specifications on Alpha centrals and Nexus readers

Alpha centrals



Specifications	200MHz CPU with 64MB RAM 512 MB Flash 100.000 users 1.000.000 events log
Supply voltage	14.4 VDC +/- 10%, when used with battery backup supply voltage must be between 13.9 VDC and 14.6 VDC. The central's consumption without external loads is 150mA at 14.4 VDC (2W). Maximal consumption is limited to 60W.
Battery backup	12 VDC, 2.1 Ah
Real time clock backup capacitor	Minimum 24h
Operating temperature	-4 °F to 185 °F If used with battery backup, please check battery limitations.
Communications	1x J45 10/100 MB Ethernet port 1x RS485 central communications port ¹ , distance up to 1000m 1x USB host port ³
Readers	2x or 4x RS485 ports ¹ supports up to 4 or 8 readers using MODBUS protocol. Maximal power output for each reader port is 500mA at 13.9VDC.
Outputs	2x or 4x lock outputs each as relay (max. 30VDC, 5A) and transistor MOSFET output (13.9 VDC at max. 500mA ²). 2x auxiliary output relays (max. 30VDC, 5A)
Alarm output	Use auxiliary relay output ³
Inputs	2x or 4x requests to exit (voltage free) 2x or 4x door monitors (voltage free) 2x auxiliary inputs (voltage free) Galvanic isolation is provided on all input channels with opto-couplers.
Tamper switch	(Art.no.: 800-000-9001) Optional, use auxiliary input
PoE (only +PoE models)	Powers up to 25 W, according to standard for PoE+ IEEE 802.3at ³
Dimensions	Central housing is 8-3/8" long, 3-1/2" wide and 2-1/2" high for 35mm DIN-rail. System housing for power supply, central, and battery holder is 11-1/4" long, 14-1/4" wide and 4-3/8" high, IP 40, 2 rows of 12 modules
Weight	230g
Standards and certificates	CE
Installation	Installation of equipment must be done by a professional electrician on restricted access location
Color	White
Material	Central housing is made of self-extinguishing blend PC ABS, system housing is made of Acrylonitrile Butadiene Styrene (ABS)
Warranty	2 years

Note 1 Use AWG23 (0.6mm) Cat. 6 or AWG24 (0.5mm) Cat. 5

Note 2 Maximal overall power consumption of all readers and all transistor outputs is limited to 4A at 13.9 VDC (55.6W). When central is powered over PoE, maximal overall power consumption is 25W.

Note 3 PoE, USB, auxiliary inputs and outputs are only available on centrals Alpha2+PoE and Alpha4+PoE.

Nexus readers



Specifications	Cortex M3 CPU												
Supply voltage	Min 9V DV - Max 24V DC												
Typical supply current	72mA at 14V DC, 1W, with keypad 180 mA at 14V DC, 2.5W												
Peak current	150mA at 14V DC, 2.1W, with keypad 200 mA at 14V DC, 2.8W												
Operating temperature	-20 °C to 70 °C												
Storage temperature	-45 °C to 85 °C												
Communications	RS485 port, using MODBUS protocol with encrypted data ¹												
LED indicator	Two color: red for locked door and green for open door												
Buzzer	Short beep if access is granted and longer error beep for otherwise. For each key pressed, you will hear short click sound and see blink of green LED												
Transmit frequency	13,56 Mhz (Nexus M or MK) or 125 kHz (Nexus P or PK)												
Reading distance	Nexus Prox - ISO card: typical 40mm Nexus Prox - Tag: typical 30 mm Nexus Mifare - ISO card: typical 30mm Nexus Mifare - Tag: typical 20 mm												
Recommended mounting height	130-160 cm												
Cable length	3m												
Max cable distance from central	50m - Check cable specifications for details												
Wiring	<table border="0"> <tr> <td>Orange</td> <td>+</td> <td>9-24V DC input</td> </tr> <tr> <td>Orange/White</td> <td>-</td> <td>Ground</td> </tr> <tr> <td>Green</td> <td>RA</td> <td>RS-485 BUS</td> </tr> <tr> <td>Green/White</td> <td>RB</td> <td>RS-485 BUS</td> </tr> </table>	Orange	+	9-24V DC input	Orange/White	-	Ground	Green	RA	RS-485 BUS	Green/White	RB	RS-485 BUS
Orange	+	9-24V DC input											
Orange/White	-	Ground											
Green	RA	RS-485 BUS											
Green/White	RB	RS-485 BUS											
Anti-sabotage protection (tamper switch)	Optical, integrated												
Dimensions	Width:54mm x length:149mm x height: 15mm												
Weight	165g												
Standards and certifications	CE												
IP protection	IP 65												
Color	Black												
Material	Self-extinguishing material PC-ABS (V0)												
Warranty	2 years												

Note 1 Available with firmware update

Table for location notes

Location	IP-address	MAC-address

TRANSMITTER SOLUTIONS WARRANTY

The warranty period of the Prima Controller is twenty -four (24) months. This warranty shall begin on the date the controller is manufactured. During the warranty period, the product will be repaired or replaced (at the sole discretion of Transmitter Solutions) if the product does not operate correctly due to a defective component. This warranty does not extend to (a) the product case, which can be damaged by conditions outside the control of Transmitter Solutions, or (b) battery life. This warranty is further limited by the following disclaimer of warranty and liability:

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7380 S. Eastern Avenue, Suite 124-320 • Las Vegas, NV 89123
(866) 975-0101 * (866) 975-0404 Fax
www.transmittersolutions.com