

Introduction

Thank you for purchasing EXprox, a 125 kHz proximity reader. This fully encapsulated reader offers a high degree of protection against the ingress of both dust and liquids, allowing the reader to be mounted in external exposed locations.

The reader is fitted with red and green LEDs together with an integral sounder for positive indication of card reads. All of these can be controlled from an external source.

EXprox can be connected to equipment with the following interface types:

- Magnetic stripe compatible (clock & data) interface where the 13-digit card number is output in track 2 ABA format.
- Wiegand interface (reader configured to output in standard 26-bit format).

EXprox is supplied with both graphite and ivory covers, allowing you to change the appearance of the reader to best suit the surroundings.

EXprox VR is fitted with an extremely robust stainless steel cover which is highly resistant to attack but at the same time offers a very contemporary look.



EXprox & EXprox VR

Part Nos: 5002-0354, 5002-0355

Installation

When installing more than one reader, ensure that they are spaced at least 1 m apart.

Power Supply

Ensure that the source used to power this reader provides smooth DC voltage using a linear regulator. Switch-Mode Power Supply types must NOT be used.

Cabling

- The maximum cable length to TDSi access control units is 150m (40m for S1 and S4 readers 3&4).
- The recommended cable type is 7/0.2 screened cable, e.g. Belden 9730.
- Should the reader be connected to 5 V supply then cable distance is down to 2 metres only.
- The maximum cable distance to non-TDSi access control units cannot be stated here as this is a function of the access control unit.

Mounting and Electrical Connection

1. Make suitable holes and rebates on the mounting surface to allow the exit of the cable from the rear of the reader.
2. Make the electrical connections to the access control unit (see **Connection** overleaf).
 - Connect the cable screen to ground at one end of the cable only, preferably at the Controller end, with the controller connected to a good ground. If the reader is fitted onto metal such as a metal pillar then screen or ground the reader only at the reader end and not at the Controller.
 - Feed the reader cable through the ferrite core supplied in the installation kit and position the core as close as possible to the reader.
3. Select the reader technology to be MAGNETIC. Additionally for System 2 and System 4 access control units, fit reader technology jumpers into positions 7 and 9.

Connection to ACUs

The EXprox and EXprox VR Readers supports all standard access control standards including TDSi's MICROgarde, Excel, EXpert, EXpander, S1000 and S1, S2 and S4 controllers.

Colour	Function	MICROgarde		EXcel ² , EXpert ² , EXpander ²		EXcel ⁴				S1000		Non-TDSi Access Control Units	
		1/3	2/4	1	2	1	2	3	4	1	2	Mag- stripe	Wiegand
Red	+12V DC	26	26	30	30	17	28	28	44	2	4	+5 to 14 VDC (1)	
Black	0V	27	27	29	43	18	29	29	45	1	3	0V (2)	
White	Mag clock	24	29	25	39	15	26	31	42	17	16	Mag clock	Data 0
Yellow	Mag data	23	28	24	38	14	25	30	41	11	15	Mag data	Data 1
Blue	LED	25	30	27	41	16	27	32	43	19	18	Red LED active when connected to 0V	
Green												Green LED active when connected to 0V	
Violet												Buzzer active when connected to 0V	
Brown		Link to White											Link to Black (0V)

Colour	Function	S1	S2 Reader 1	S2 Reader 2	S4 Reader 1	S4 Reader 2	S4 Reader 3	S4 Reader 4
Red	+12V DC (1)	7	48	21	48	21	21	21
Black	0V (2)	8	47	20	47	20	109	120
White	Mag clock	13	46	19	46	19	107	118
Yellow	Mag data	15	45	18	45	18	102	113
Blue	LED	14	43	16	43	16	105	116
							Link 104 & 108	Link 115 & 119

1. See **Cabling** overleaf

2. **IMPORTANT:** The cable screen **MUST** be connected to ground at one end of the cable only, preferably at the Controller end, with the controller connected to a good ground. If the reader is fitted onto metal such as a metal pillar then screen or ground the reader only at the reader end and not at the Controller.

Specifications

Temperature range	-20 °C to +55 °C
Humidity range	0 to 95%RH (non-condensing)
Dimensions	101 mm x 40 mm x 18 mm
Power	5 to 14 VDC, 100mA Max
Read Range (EXprox)	<150 mm (ISO card), <70 mm (tag)
Read Range (EXprox VR)	<70 mm (ISO card), <30 mm (tag)
Operating Frequency	126 KHz (nominal)
Interface	Magnetic stripe (Clock & Data) Track 2 ABA; Wiegand 26-bit