

❖ MULTIPRO ❖

Protocol programmer



Installation and Operation Manual



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Introduction

MULTIPRO is a "protocol programmer", used to define the protocol on the MINI™ and/or Vprox to make them compatible with their Host. Protocols that can be defined are CODIX, 26 to 40 bit WIEGAND or CLOCK & DATA. MULTIPRO, in a metal housing with 12 keys, has 3 LED's and a buzzer to aid programming.

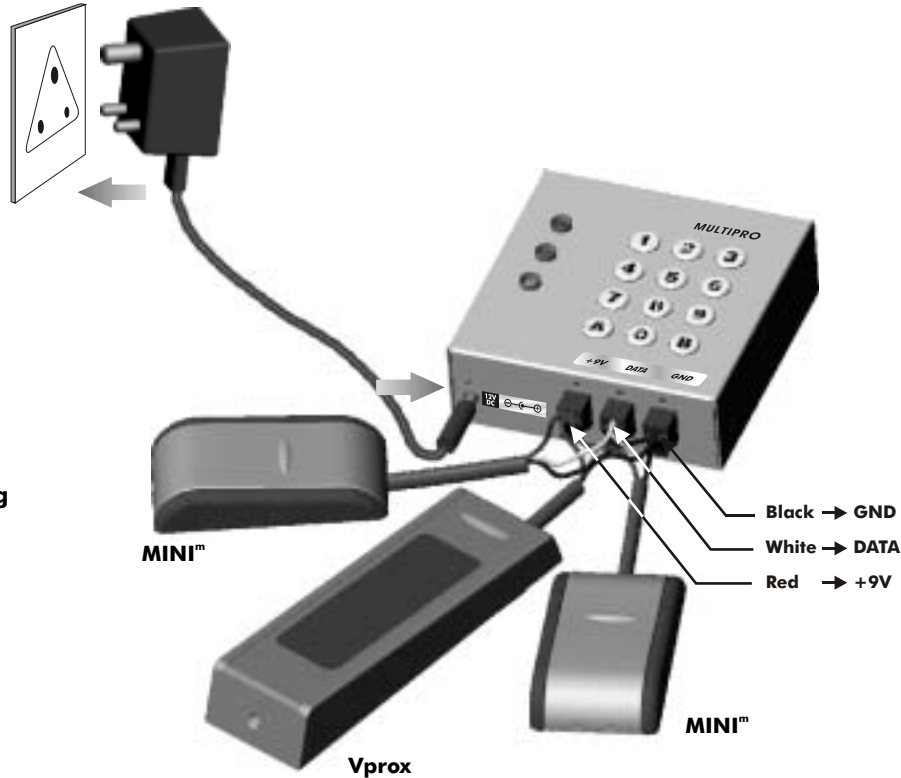
A socket, protected against reverse polarity, has been provided for a 12V DC plug-in adaptor to power the unit.

Once a protocol is selected, MULTIPRO is also used to program the features of the MINI™ or Vprox readers. With XPR's proprietary CODIX protocol, for example, there is no need to hard-wire the LEDs as CODIX's bi-directional capability allows LED operation to be logically selected (see "CODIX protocol" below). Through MULTIPRO, for example, one can program the voltage free LEDs (Green/Red) for outputs 1 & 2 to show output status.

Installation

Wiring instructions

1. Place the MULTIPRO on a flat surface.
2. Connect the plug-in adaptor.
3. Connect the 3 wires of the MINI™ or Vprox to the terminals of the MULTIPRO.



Note:

Use adaptor that has center pin "+" and having output of 12V DC, 250 mA (max).
(Power supply not included)

Parallel connection required for connecting upto 5 readers (MINI™/ Vprox)

Programming

Protocol selection

1. To enter Programming mode, press 'A'. The yellow and red LED's light up and 3 long beeps are heard.
2. Select the protocol to comply with the Host by one of the following steps:
 - a. WIEGAND: 1 + 'A' + 26... 40 + 'A' (26 to 40 refers to the type of WIEGAND protocol).
 - b. CLOCK & DATA: 2 + 'A'
 - c. CODIX Binary: 4 + 'A' (for XPR product : DUO, MONO, EX5, EX7, VI200, INOX99, KPR9)

In all cases simultaneously the green LED lights up for 1 second on the MULTIPRO and 2 beeps are heard on the MINI™ or Vprox.

3. To quit programming mode, press 'B'. The yellow and red LED's turn off.

*Example: To set the protocol to 26-bit Wiegand, press **A + 1A + 26A + B***

Default Settings when a protocol is selected

- Voltage-free green and red LEDs for all protocols
- The yellow LED blinks every 5 seconds for all protocols
- No fixed header for WIEGAND protocols (26...40 bit).
- 8 digit code length for CLOCK & DATA protocol.

Programming protocol characteristics

Select reader features after the protocol has been defined.

WIEGAND protocol

1. To enter Programming mode, press 'B'. The yellow LED lights up and 2 short beeps are heard.
2. Select the length of the fixed header (i.e. site or facility code) by the following:
1 'A' + 0 or 4 or 8 or 16 + 'A'
0 = 0 bits, no fixed header, 4 = 4 bits (a number from 0 to 15)
8 = 8 bits, a number from 0 to 255, 16 = 16 bits, a number from 0 to 65535)
3. To assign a fixed header to the MINI^m / Vprox
2 'A' + header + 'A'
Note: The header depends on the length selected
Simultaneously the green LED lights up for 1 second on the MULTIPRO and 2 beeps are heard on the MINI^m / Vprox
4. Select functioning of Yellow LED
a) 9 + 'A' + 0 + 'A': The yellow LED is non-flashing
b) 9 + 'A' + 1 + 'A': The yellow LED blinks every 5 seconds
6. To quit programming mode, press 'B' to quit. The yellow LED is turned off.

*Example: To set an 8-bit header length with a header number of 20 and the yellow LED flashing every 5 seconds, Press **B + 1A + 8A + 2A + 20A + 9A + 1A + B***

Note:

- i) When there is no fixed header, all bits (24...38 bits depending on the WIEGAND protocol selected: 26...40 bits) are read from each tag/card and sent by the MINI^m / Vprox to the master unit. It is necessary to take into consideration the two parity bits which are not part of the internal code. For example, if we read 24 internal data bits (from either tag or card) for WIEGAND 26 bit (26 minus 2 equals 24 bits which, in turn, equals 3 bytes). The first and the last bit, in sequence, are parity bits and are used to send the WIEGAND protocol (Parity bit + 24 data bits + Parity bit)
- ii) When there is a fixed header, the MINI^m / Vprox replaces the first bits read from the tag by the fixed header.

For example: With WIEGAND 26 bit and an 8 bit fixed header equal to 170, MINI^m / Vprox will send a Parity bit + header 170 + user code (16 bits from the tag) + a Parity bit.

CLOCK & DATA protocol

1. To enter Programming mode, press 'B'. The yellow LED lights up and 2 short beeps are heard.
2. Set code length, a number from 5 to 8 + 'A': Assigns a number from 5 to 8.
Simultaneously the green LED lights up for 1 second on the MULTIPRO and 2 beeps are heard on the MINI^m / Vprox
3. Select functioning of Yellow LED
a) 9 + 'A' + 0 + 'A': The yellow LED is non-flashing
b) 9 + 'A' + 1 + 'A': The yellow LED blinks every 5 seconds
4. To quit programming mode, press 'B' to quit. The yellow LED is turned off.

*Example: To assign a code of 6 digits and no flashing of yellow LED, Press **B + 6A + 9A + 0A + B***

Note:

The default factory value in Clock & Data protocol is set to 8 digits in length.
Clock & Data protocol emulates magstripe Track II data output using BCD format (Binary Coded Decimal) from 5 to 8 digits.
EM proximity transponders (cards/tags) incorporate 5 data internal bytes (5 bytes = 40 data bits).
Only the 3 least significant bytes are converted from binary to decimal (BCD). For this reason, we can obtain a number between 0 and 16777215 (8 digits maximum).

Example:

Transponder internal number (3 data bytes): 01 F0 18 (Hexadecimal format) = 127000 (decimal format)

When 5 digits selected, the MINI^m will send 27000.

With 6 digits, MINI^m / Vprox will send 127000.

With 7 digits, MINI^m / Vprox will send 0127000.

With 8 digits, MINI^m / Vprox will send 00127000.

CODIX protocol

1. To enter Programming mode, press 'B'. The yellow LED lights up and 2 short beeps are heard.
2. Select functioning of voltage free LEDs
a) 0 + 'A': Voltage free LEDs
b) 1 + 'A': The red LED is voltage free and the green LED indicates that output 1 is activated
c) 2 + 'A': The green LED is voltage free and the red LED indicates output 2 is activated
d) 3 + 'A': The green and red LED's indicate activation of outputs 1 and 2 respectively
Simultaneously the green LED lights up for 1 second on the MULTIPRO and 2 beeps are heard on the MINI^m / Vprox
3. Select functioning of Yellow LED
a) 9 'A' + 0 'A': The yellow LED is non-flashing
b) 9 'A' + 1 'A': The yellow LED blinks every 5 seconds
4. To quit programming mode, press "B" to quit. The yellow LED turns off.

Example: To program the green and red LEDs for output indication with the yellow LED flashing, press: **B + 3A + 9A + 1A + B**

Binary CODIX Protocol

When the CODIX is encoded with binary data the code length is greater (between 0 and 4294967295 = 4 bytes) and cannot be set directly from the master unit (keypad code). The transponder codes must be programmed using the proximity slave reader combined with the master unit (keypad).

MINI[™] / Vprox uses EM proximity transponders (cards/tags) with 40 real data bits = 5 bytes (5 x 8bits = 40 bits) with an operating frequency of 125 kHz.

EM proximity transponders (cards/tags) has 5 data internal bytes (5 bytes = 40 data bits): 5 4 3 2 1

(5 = the most significant byte of the transponder number)

(1 = the least significant byte of the transponder number)

Note: Our keypad codes use BCD format (Binary Coded Decimal format).

Binary data: the " 4 3 2 1 " bytes are sent directly in binary format.

Example:

"4 3 2 1" = 00 00 00 FF (hexadecimal format)

The code 00 00 00 FF is sent to the master unit in binary format.

The installer cannot program the code directly from the master unit (keypad).

Visual and Audible Signals

MULTIPRO: Beep + a yellow LED + a green LED on MINI[™] / Vprox : Two long beeps are heard

- Beeps and flashes during a period of 3 seconds (beep...beep...) indicate an operating error.
- 5 intermittent signals (beep-beep-beep + the yellow LED blinking) indicate a communication bus problem and could indicate a faulty connection.
- Once the 'A' key is pressed (in programming mode) the MULTIPRO sends data to the MINI[™] / Vprox and receives an "OK" signal if the operation has been correctly executed.

Warranty

XPR warrants its products to be free from defects in material and workmanship for a period of 24 months from the date of shipment. The products are to be installed in accordance with XPR's instructions and the unit should not be modified or tampered with in any way. XPR does not assume any responsibility for damages arising from misuse of the product. XPR's sole responsibility is limited to the repair or replacement when the product is sent to an XPR facility.

