USER MANUAL FOR

NG 4DR8RD

MODEL:SMNG480
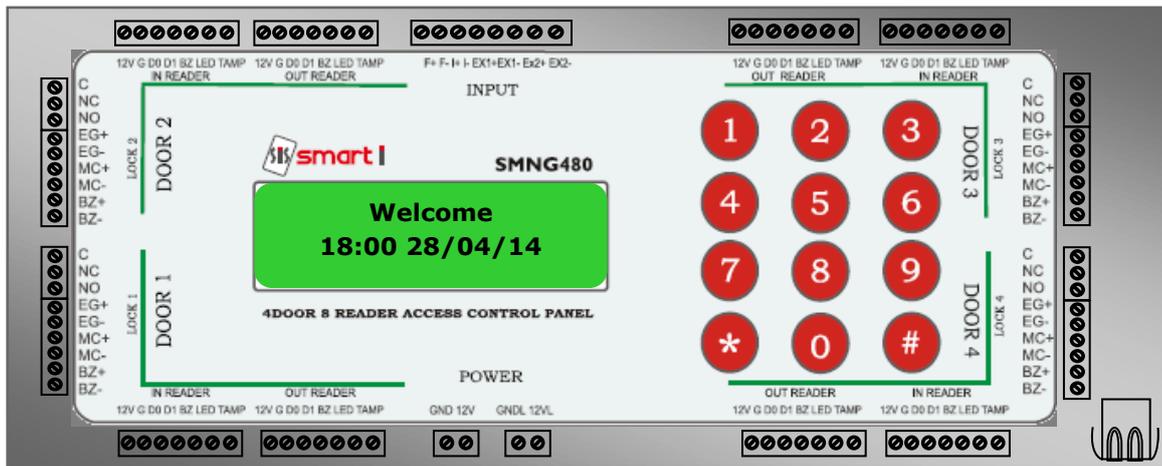
Manual Update Date : 09/06/2015

Contents

WARNING & CAUTION

Ø Please handle the equipment with care. Physical Damage to the system is not covered under warranty.

Ø Do not power on the system without reading this manual. Ensure proper power supply with Earthing.

Ø Note down the serial number and model no. of the device for future reference and quote in all support and service requests.

Ø To connect or interface the Card reader to the **Smart XS NG** unit please refer to the Hardware Installation Guide or Manual and carefully follow the instructions. A trained technician must make the connections.

   Any negligence on your part may damage the Card reader interface on the **Smart XS NG** terminal.

Ø Mounting the unit in strong sunlight may affect user visibility of the LCD. Ensure that the LCD and LED's are clearly visible in all lighting conditions.

Ø The fingerprint sensor glass may periodically require cleaning - use suitable glass cleaner.

Ø Do not uses this unit near water.

Ø Do not opens system or places it near other heavy electrical equipment. The system is sensitive to Electro Static Discharge (ESD)

Ø Never insert objects of any kind into the unit or through the cabinet slots as they may touch voltage points and/or short circuit parts possibly resulting in fire or electric shock. Never spill liquid of any kind on the unit.

Ø when connecting up the Controller Access Controller ensure that the mains power supply is safely isolated. Power up the controller only when installation is complete.

Ø Operating conditions: 0 to 55 deg Celsius and 50 deg Celsius at 90% RH.

Fire Safety and accountability Notice

When connecting card or Biometric readers to any emergency entry, exit door, barrier or elevator must provide an alternative exit in accordance with all fire and life safety codes pertinent to the installation. These fire and safety codes vary from city to city and you must get approval from local fire officials whenever using an electronic product to control a door or other barrier.

Important Instructions
  ➢ Care should be taken identifying the wires. Improper wiring may render permanent damage to the device or personal injury.
  ➢ Refer the color code on the Reader to connect the external weigand reader on the controller.
  ➢ Check the earthing at the site before installing the controllers. Normally the earthing should be between 1V to 2V only. Earthing on the higher side may damage the controller or its various other components.
  ➢ Before Installation delete all data (Factory reset) using keypad menu * 90

Disclaimer
  ➢ Changing of default user password is mandatory to avoid tampering of the device.
  ➢ In case of user password not changed; smart I will not be responsible for any tampering on the device.

1. Before you start with smart XS NG

1.1. Included items

❑ **Smart XS NG** unit
❑ Battery Backup Power supply 12 V 5A
❑ This Installation Guide

Product	Image	Qty	Use
SmartXS NG		1	Access control or Attendance System
Power Supply		1	Supplying power for the controller & locks
User Manual & Test Report		1	For referring functions keys for programming the device by keypad
Software	http://www.smartisystems.com/Software.html		For Device Configuration/Management & For Data Downloading

2. Power Supply Specification

In case you do not have the required power supply included in the package and intends to buy your own power supply use these specifications. Below given specifications should be strictly adhered to.

Device	Application	Power Supply	Input	Output
Smart XS NG	Attendance & Access (Lock Voltage)	Battery Backup Power supply with Dual voltage o/p	110 to 230 VAC	3 12V DC /5 Amps. 4 13.8 VDC/ 1 Amp. For external Battery

PRODUCT SELECTION

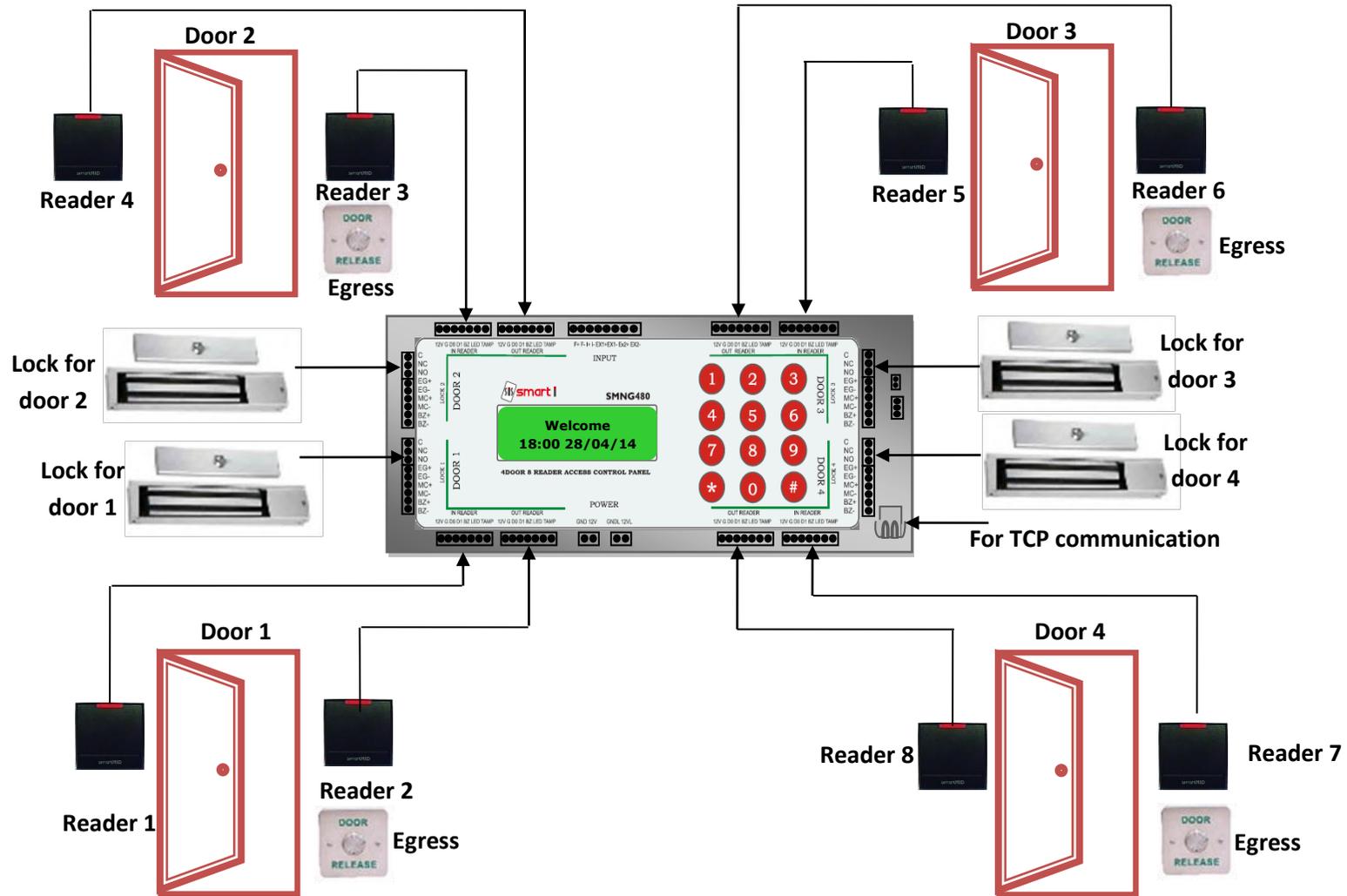| Particulars	Specifications
Model no.	SMNG480 Series
Applications	Access Control

INTRODUCTION

The new **NG SMART 4door 8reader** blends loads of innovative features to streamline installation and administration for large business enterprises for multiple doors access control deployment. **NG 4dr8rd** brings the high speed, accuracy, flexibility and user friendly interactivity.
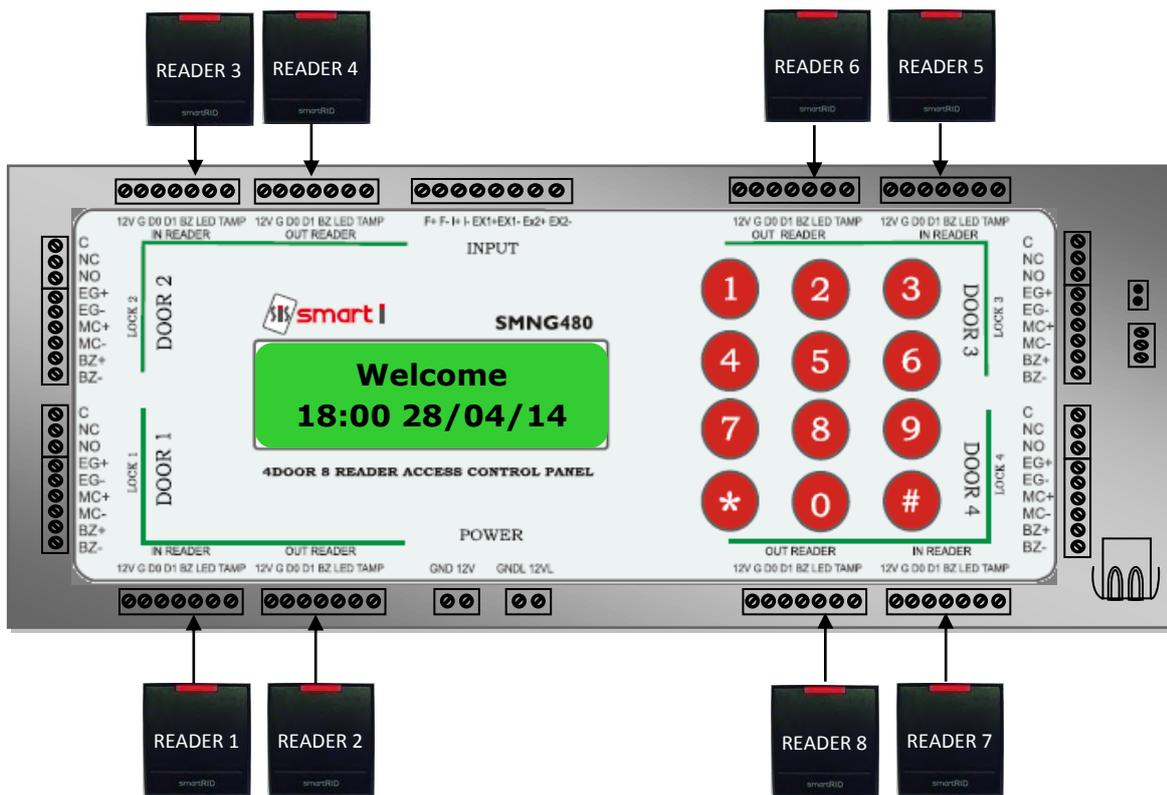
DEVICE CONFIGURATION

SPECIFICATION

Hardware specification:

Particulars	Description
CPU	32 Bit RISC Arm
Memory	Flash 4MB
Events/Transactions	60,000
No. of Users	30,000
Operation Modes	Card Only, (On Weigand Card Only).
Card Reader Options (extra Module)	Mifare, HID (I Class), HID Prox, EM cards.
Communications Port	TCP/IP, RS485
Baud Rate	9600bps (Default)
Controller ID	Max 9999
LCD	16x2
Keypad	Dome keypad
Language	English
Power Supply	12 V DC/ 5A (Min)
Enclosure	
Color / Weight	
Dimension (L X H X D) in mm	
Mounting	Wall Mounting

Access control features:

Particulars	Description
Facility Code	Available
Time Zone / Access Levels	63 + 1 (Free Time Zone)/Unlimited
Time Zone Slots	4 slots per Day
Anti-Pass back	Hard, Soft, Escort (Reader Wise)
Holiday Settings	42

KEYPAD DETAILS

Sr. No.	Function	How to go?	Note	Observation (IDEAL)
1.	Normal mode	Key – *0	In this mode card is shown	
2.	Admin Mode	Key – *2 Enter User ID – 11111 Key – # Enter Password – 12345 Key – #	To log out from Admin mode press **Key – *2** **Key – #** (Auto logoff after 60sec)	
3.	Add User	Key – *3 Show card Key – #	After showing card to reader 1, card no will come automatically on LCD then press #	
4.	Delete User	Key – *4 Show card Key – #	After showing card to reader 1, press #. Then that user gets deleted.	
5.	Search User	Key – *5 Show card Key – #	If user is added then it will show card no with password.	
6.	Set Time & Date	Key – *6 Enter Time/Date Key – #	Enter correct Date & Time.	
7.	Help Menu	Key – *8 Press – 1 for INC Press – 3 for DEC Press – # to enter	We can directly go in to any menu by pressing "#" key.	
8.	Initialize system	Key – *90 Press – 1 for INC Press – 3 for DEC Key – # to enter	00 Delete all data 01 Delete Transaction 02 Delete All Users 03 Set All Default 04 Delete Sys. Info 05 Delete Time Zone 06 Delete Holiday 07 Delete Facility Code 08 Delete Door info 09 Delete Admin IDs 10 Reset System 11 Delete Cards Only	**Refer Annexure:1**
9.	Controller Slave ID	Key – *91 Enter Controller Slave ID Key – #	By default it is set to 1. We can assign controller ID from 1 to 32.	
10.	Add / Change or Delete Admin Users	Key – *92 Press – 1 for Add/Ch Press – 3 for Del Key – # Enter user ID then # Enter password Key – #	We can add max 16 admin users (0 – 65535 nos) including default admin user (i.e. User ID = 11111 and Password = 12345)	

11.	**Door open time**	**Key – *94** **Enter door open time** **Key – #**	Door open time can be set for all doors → 1 to 98 secs. And DOTL sense time is equal to Door open time + 1 sec.	
12.	**Facility code**	**Key – *96** **Press – 1 for Enable** **Press – 3 for Disable** **Press – # #** **Enter Facility code location (0-7)** **Show card** **Key – #**	After pressing 1, Enter facility code location & show card. Then facility code will come automatically for that card. Max 8 facility codes can be assigned.	
13.	**Set Controller Type**	**Key – *97** **Then select controller type for reader 1 by selection keys from 1 to 8, and then press # key. Same way set controller type for reader 2 to 8 same as above.**	1 = Weigand Access 3 = Weigand Att. 5 = Weigand Att. No check 6 = Deny list	
14.	**Set IP Address**	**Key – *990** **Enter Unit IP Address** **Press – #** **Enter Subnet mask** **Press – #** **Enter Default gateway** **Press – #** **Enter Server IP Address** **Press – #** **Enter Port No.** **Press – #**	We can set Unit IP, Subnet mask, Default gateway, Server IP, Port No. using this menu. **After setting all parameters reset the system to take effect.**	
15.	**Display Current System Parameters**	**Key – *991** **Press Enter key to get next data**	System parameters: - Terminal ID IP Address Net Mask Gateway Server IP Port Number Global Msg Banner Msg Cont. In Out Identify Mode Controller Type User name loc Memory mgmt , etc.	

16.	Set 5/8/10 Digit card no format	Key – *995 Press – 5 for 5-Digit Press – 8 for 8-Digit Press – Any Num Key except 5 & 8 for 10-Digit Key – #	After setting card format to 5-Digit it will display and process 5-Digit card no. And for 10-Digit format, it will display and process 10-Digit Card no. For 8 digit card no it will display 5 digit card no & 3 digit facility code.	Refer note
17.	Controller No	Key – *996 Enter Controller No to be set Key – #	We can set unique controller no (0 - 9999) using this menu.	
18.	System Info	Key-*9991 Press enter key to get next data	Model Number Unit ID Controller No Card Buffer Used Card Buffer Bal. Card Buffer Trans Buffer Used Trans Buff Bal Trans Buff Serial No Manufacturing Date FW Compile Date Firmware Version Hardware Version Controller Type Reader Type MAC address	
19.	Bulk Add card	Key-*9993 Press – 1 for add cards Press – 3 for delete cards	For card addition & deletion only show card, it will automatically get added or delete from controller.	
20.	Fire/Tamper	Key – *9994 Use Keys 0, 1, 2 or 3 to enable disable fire & tamper. Then press #	To enable disable fire & Tamper press following keys, 0 = Disable All 1 = Enable Fire 2 = Enable Tamper 3 = Enable Fire Tamper 4 = Enable Intrusion 5 = Enable Fire and Intrusion 6 = Enable Intrusion and Tamper 7 = Enable All	1 = Enable Fire

21.	MAC Security	Key – *9997 Press # Press– 1 for Enable Press – 3 for Disable Then press #	To download transaction data from particular PC. Required to set MAC ID of that PC from s/w.	
22.	Network Ping	Key- *99990 Network ping	To Ping Network 1= Ping gateway 2= Ping Internet	
23.	En/Dis D.I.S.	Key – *999990 Press # Press– 1 for Enable Press – 3 for Disable Then press #	By enabling system do not give access by any door till any door is open.	

Note:

1. **All add user, del user, …. Functions (3 to 23) are done in Admin mode.**
2. **Auto Logoff for Admin after 60 secs. (If any key is not pressed)**
3. **If system is initialized or IP address is set then reset the system.**
4. **For 26 bit reader you can set *995 keypad menu to 5 digit, 8 digit & 10 digit card as per requirement.**
5. **For 32, 34 & 35 bit reader set *995 keypad menu to 5 digit & 10 digit only.**

Annexure: 1

*90 Selective Initialization of System

00 Delete all data	Every Info is deleted and set to default value
01 Delete Transaction	All transaction are deleted
02 Delete All Users	All users i.e. card buffer are deleted
03 Set All Default	Deletes all info and set it to default value, except card buffer and transactions
04 Delete Sys. Info	Deletes current system parameter and set all with default system parameter
05 Delete Time Zone	Deletes all time zones and set default time zone
06 Delete Holiday	Deletes all holidays
07 Delete Facility Code	Facility codes are deleted and all are set to default Facility code
08 Delete Door info	Deletes door information and set to default Door information
09 Delete Admin IDs	Admin Id is deleted and set to default ID
10 Reset System	Resets the system
11 Delete Cards Only	Only card buffer is deleted

Annexure 2:

*9991   System Info

Model Number	SMNG480
Unit ID	1
Controller No	0
Card Buffer	30000
Used Card Buffer	0
Bal. Card Buffer	30000
Trans Buffer	59999
Used Trans Buff	1
Bal Trans Buff	59998
Serial No	As per factory setting
Manufacture Date	As per factory setting
FW Compile Date	31 May 2014
Firmware Version	N8R3.5A
Hardware Version	1.1
Controller Type	Weigand Access
Reader Type	0
MAC Address	As per factory setting

NG 4DR8RD CONNECTION DETAILS:
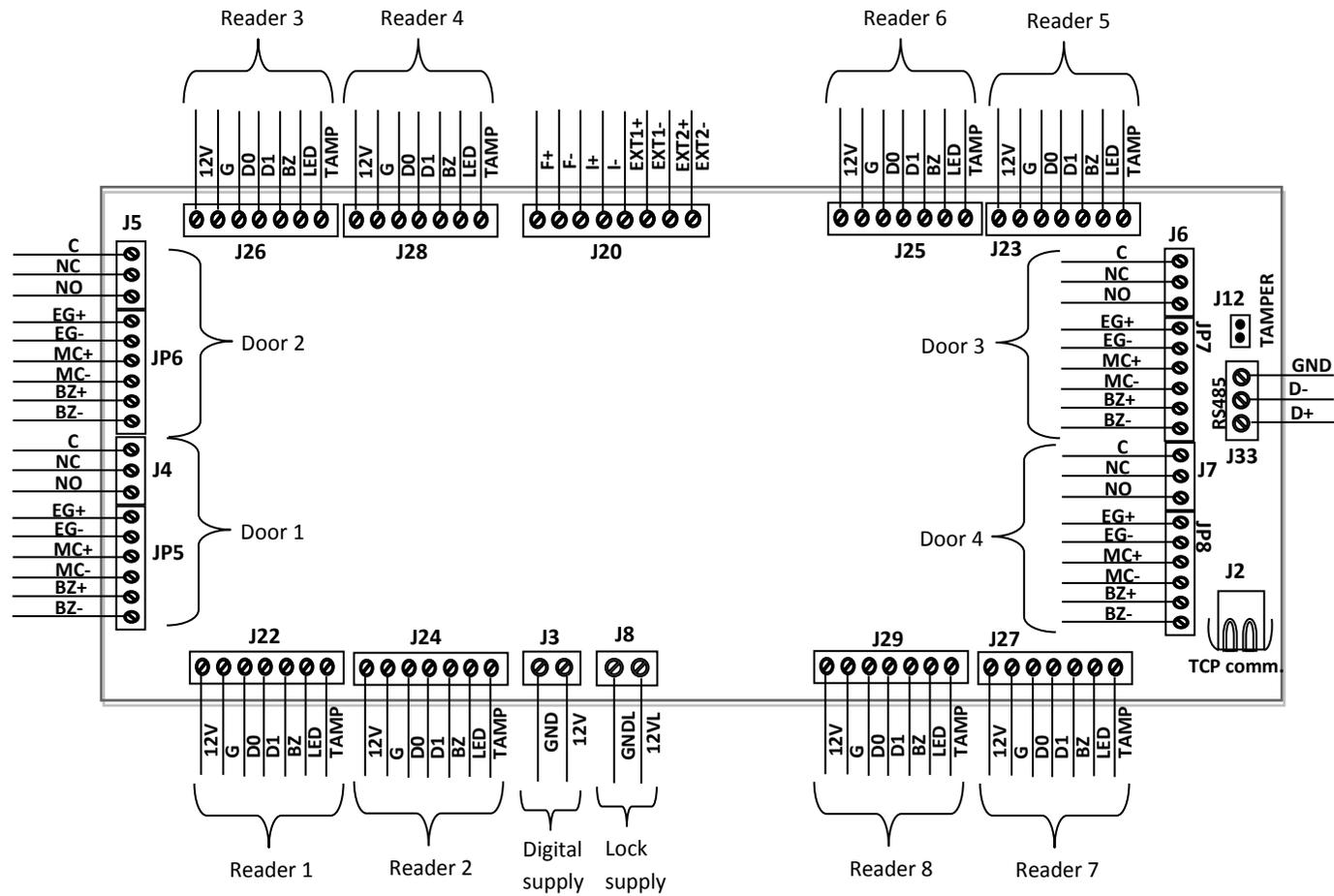
Connector Details:

Power supply (J3):

Sr. no	Signal
1.	GND
2.	12V

Door Lock connection (1 to 4):

Sr. no	Signal
1.	C
2.	NC
3.	NO

Door Connection (1 to 4):

Sr. no	Signal
1.	EG+
2.	EG-
3.	MC +
4.	MC-
5.	BZ+
6.	BZ-

Door Supply connection (J8):

Sr. no	Signal
1.	GND
2.	12V

Weigand Readers connection (1 to 8):

Sr. no	Signal
1.	12V
2.	GND
3.	D0
4.	D1
5.	BZ
6.	LED
7.	TMP

EML connection for all doors:
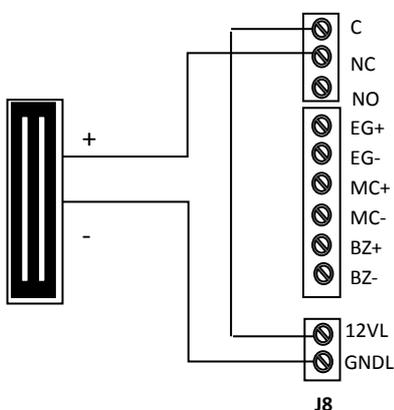
Strike locks connection for all doors:
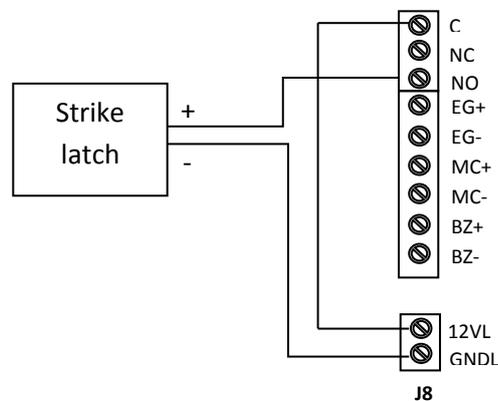
RECOMMENDED CABLE SPECIFICATION

| Particular	Distance	Cable Specs
Access controller to Weigand reader	Up to 80 mtr	14/36, 22AWG, 6 core shielded cable
Egress /Exit	Up to 80 mtr	7/38, 22AWG, 2 core cable
Magnetic contact	Up to 80 mtr	7/38, 22AWG, 2 core cable
Magnetic Lock	Up to 80 mtr	14/36, 22AWG, 2 core cable

CONNECTING TO HOST COMPUTER USING

The NG Can be Connect to the computer by TCP/IP (Ethernet).

Note: Use proper manually crimp **CAT5**cable, Refer bellow images**,**

Manually Crimped RJ-45 (CAT5)   **Readymade RJ-45 (CAT6)**
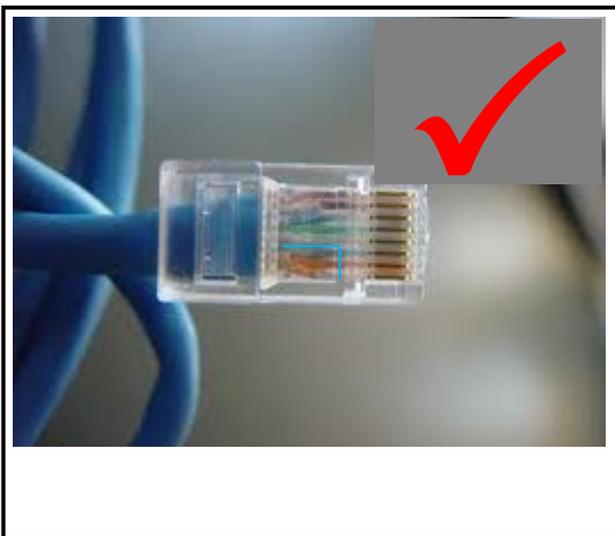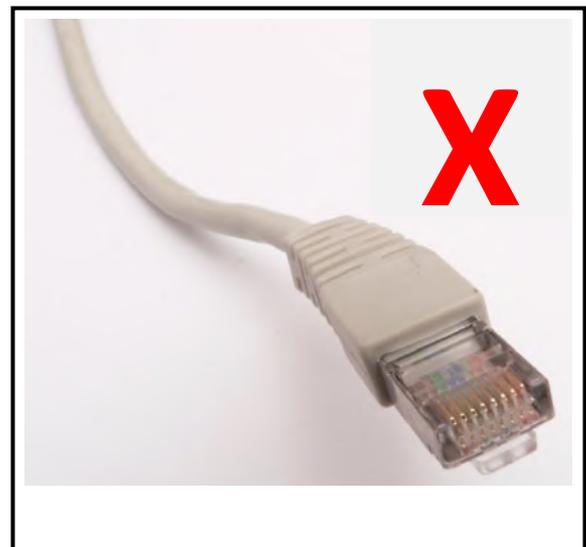
Connecting to a Weigand compatible reader

The **Smart XS NG** supports Weigand compatible readers of various formats, viz 26/32/34/35 (HID corporate 1000 format)-bits.

Connect the external Weigand readers to **READER1, Reader2, Reader3, Reader4** connector on the controller**.**

Refer the color code of the Reader to connect the external Weigand reader on the controller.

 Connecting Electro Magnetic Lock/Strike Lock

The **Smart XS NG** can be connected to Electro Magnetic Lock/ Strike lock through Door 1 to Door 4 connector pins. For connecting refer lock connection details.

Connecting to the Host computer

The **Smart XS NG** provides various means to connect to the host computer such as:

1. through TCP/IP (Ethernet)

Connecting via TCP/IP

The **Smart XS NG** series can be connected on the LOCAL AREA NETWORK (LAN) Or Wide Area Network (WAN) as under:

Connecting single controller directly to a PC Using TCP/IP (CAT5/6) Network Cable

Step 1 Use the crossover network cable, with one end connected to the **Smart XS NG** TCP/IP port, and the other end to your PC network adapter.

Step 2 To check your PC's IP Address Settings, find out the IP address of the network. To do so, go to a PC in the network presently, press Start -> Run -> Type "command" and click on 'OK'.

Step 3 Type "ipconfig" and press 'Enter'.

Step 4 Note the IP Address displayed, following is an example.

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\User-09>ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        IP Address. . . . . . . . . . . . : 192.168.0.26
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.0.11

C:\Documents and Settings\User-09>
```

Step 5 To Check the IP Address of controller press *2 enter user id (11111) then # Enter Password (12345) Key – # which will display the Current IP Address to Controller, make a note of it. (Default IP of the controller is 192.168.000.200)

Step 6 To change the IP Address in Controller unit. Refer Configuration of Smart XS NG (port is default 01234 no need to change)

Testing the Connection

Once the configuration is complete, it is recommended that the connection be tested.

To test the connection following is the under mentioned steps

Step 1 At the PC, Click Start -> Run -> Type "command" and press 'OK'.

Step 2 Type "Ping 192.168.0.251 -t" (The IP Address should reflect that of your Smart XS NG unit)

Note: - If unsuccessful, either "Destination Host Unreachable" or "Request Timed Out" will be displayed, please follow the above steps carefully and test the connection.

Successful Connectivity

Unsuccessful connectivity

Using Smart XS NG

The user enrollment process is performed in one of the **Smart XS NG** Unit OR through the administrator's computer, and the card data is distributed to other controllers over the **Smart XS NG** Network

If the LED lights up in green, the authentication is successful

LED STATUS	BUZZER STATUS	DESCRIPTION
LED FLASHES RED	SHORT BEEP	USER NOT FOUND
LED FLASHSES GREEN	LONG BEEP	ACCESS GRANTED

Trouble Shooting

 # 1. No Communication from Smart XS NG Controller to PC
    There are a few points that can be checked to fix it:
1) Make sure the network cable is functional; sometimes a damaged cable may be the cause of all problems. To check if it is functional, make sure there are no loose ends and the jack is properly attached to the cable.
2) Check that the IP Address Assignment matches the network settings of the corporate LAN or the PC being used.
3) Make sure no IP has clashed and that there are no two identical IP addresses in the network.

 # 2. LCD screen of the Smart XS NG completely blank
i. Check whether the power supply is working or not
ii. The output vtg generated by the power supply is 12V DC. Check this vtg using multimeter if possible
iii. Check 12V-G power connector properly inserted into a socket.

 # 3. Is it possible to connect two locks or two readers on single connector?
 Do not connect 2 locks or 2 readers together on a single connector. A single lock connector can safely drive 600mA current.
If load current increases beyond 1A, that may cause hardware problems.

 # 4. LCD backlight is on but characters are not display or light display
Check the output vtg by the power supply is 12V-GND connector.

 # 5. When the card is flashed in display its show "user not found"
 To Enter into Admin Mode Refer keypad function details.
  Check for controller Key – *5
                    Show card
                  Key – #
If user is added then it will show card no enrolled.

 # 6. Continues Beep & Door Force Open
Check for lock magnetic contact (MC+/ MC-), it should be short if not in used. (Refer connection Diagram)

 # 7. Admin User: User/Password Fail
If the System/Unit is initialized then password will not match. In this case RESET the System i.e power off and then power on the system then enter Admin Id and password.

 # 8. Using Stand Alone (Bio metrics device or Smart Single) Controller as weigand reader then what will be to step follow-up?
  ➢ Change controller type
  ➢ Change weigand bit in transparent mode
  ➢ Change reader IN/OUT setting as weigand out mode
  ➢ All changes done by using key function.