Control Pad Operational and Programming Manual

Revision 1.0
www.coolautomation.com
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1 Revision History

- 1.0 Initial

2 Interfaces

Control Pad, depending on the specific model type, can support combination of the following interfaces:

- RS-485
- RS-232
- InfraRed (IR)

Below table shows relation between models, supported interfaces and protocols

Model	RS-485			RS-232			IR	
	MODBUS RTU	MODBUS ASCII	Proprietary ASCII	MODBUS RTU	MODBUS ASCII	Proprietary ASCII	RC5	Proprietary
CP-R4	V	V	V				V	V
CP-R2				V	V	V	V	V

2.1 RS-485

Physical Layer
Physical layer of Control Pad RS-485 interface is based on MAX485 or compatible IC that provides half duplex RS-485 communication via two terminals: A (positive) and B (negative). Physical bytes transmission is done in accordance with EIA/TIA-485 standard. Byte format parameters are shown below:

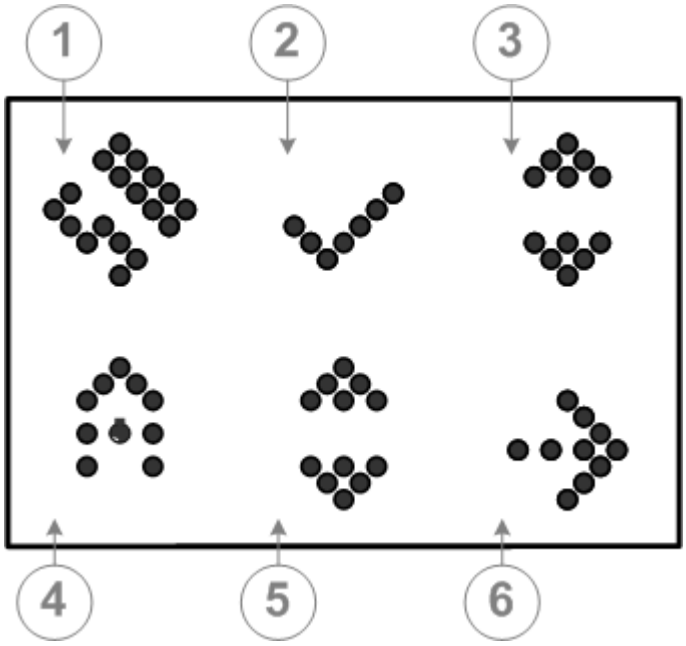
Baud Rate	9600
Start Bits	1
Data Bits	8
Parity	No
Stop Bits	1

Half Duplex
RS-485 is designed in such a way that only one transmitter on a twisted pair can be active at a time. With this constraint, in the system with Control Pad(s), only one specific unit can transmit data to other unit(s). Two or more units can't transmit data at the same time. This lead to advisability if implementing master-slave communication system where master send requests to specific slave unit and gets reply from slave. Slave unit will not transmit data unless it is requested by master. Control Pad is always acting as slave unit.

Addressing
Each Control Pad unit has it's own unit address. All units in system must have unique addresses.

3 Configuration

3.1 Unit Address



4 Proprietary ASCII Protocol

4.1 Protocol Definitions

Proprietary ASCII Protocol is based on text messages exchange between master and Control Pad. Every message should be terminated by CR (carriage return 0x0D) LF (line feed 0x0A) sequence or a single CR character.

Master Message Format

`<COMMAND>␣<ADDR>[␣<PARAMETERS>]<CR><LF>` (␣ denotes space character 0x20)

4.2 on

SYNOPSIS

`on <ADDR> <ICON>`

DESCRIPTION

Turn on icon

EXAMPLE

```
>on 02 01
OK
```

RETURN CODE

OK	Request Successfully Executed
ERROR:1	Unknown command
ERROR:2	Unknown parameter(s)

COMPATIBILITY

Control Pad	v 0.0.1

4.3 off

SYNOPSIS

`off <ADDR> <ICON>`

DESCRIPTION

Turn off icon

EXAMPLE

```
>off 002 01
OK
```


RETURN CODE

OK	Request Successfully Executed

ERROR:1 Unknown command
ERROR:2 Unknown parameter(s)

COMPATIBILITY
Control Pad v 0.0.1