

Modbus RTU Protocol for Traffic light countdown timer

Bound rare: 9600 kbps

Parity: none

* Examples of all functions transaction to a slave device with address "1":

Request to read the Device ID:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	01
Error Check (CRC16)	2 Bytes	----

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	01
Byte Count	Byte	XX
Data (Device ID)	Bytes
Error Check (CRC16)	2 Bytes	----

Request to read the timer Value:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	03
Error Check (CRC16)	2 Bytes	----

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	03
Timer Display Value	Byte	XX(bcd)
Color	Byte	XX*
Error Check (CRC16)	2 Bytes	----

* bit 0= Red, bit 2= Green, bit 3= Blue

Instruction to start countdown timer with Value:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	02
Time value	Byte	XX(bcd)
Color	Byte	XX*
Error Check (CRC16)	2 Bytes	----

* bit 0= Red, bit 2= Green, bit 3= Blue

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	02
Error Check (CRC16)	2 Bytes	----

Request to exit the timing:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	04
Error Check (CRC16)	2 Bytes	----

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	04
Error Check (CRC16)	2 Bytes	----

Request to instant display value:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	05
Time value	Byte	XX(bcd)
Color	Byte	XX*
Error Check (CRC16)	2 Bytes	----

* bit 0= Red, bit 2= Green, bit 3= Blue

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	05
Error Check (CRC16)	2 Bytes	----

Request to read the Brightness value:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	10
Error Check (CRC16)	2 Bytes	----

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	10
Brightness value	Byte	XX
Error Check (CRC16)	2 Bytes	----

Request to Set the Brightness:

Request from Master

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	11
Brightness	Byte	XX*
Error Check (CRC16)	2 Bytes	----

* '00' means auto with sensor

Response from Slave

Field Name	Length	RTU (hex)
Slave Address	Byte	01
Function	Byte	11
Error Check (CRC16)	2 Bytes	----