

Date	2015 / 09 /25	SR#	1-2245819594
Category	■FAQ □SOP	Related OS	N/A
Abstract	ADAM-40XX & ADAM-41XX How to get the CRC of Modbus command		
Keyword	ADAM-40XX, ADAM-41XX, Modbus command, HEX, CRC, AccessPort		
Related Product	ADAM-40XX and ADAM-41XX		

■ **Problem Description:**

This documentation shows how to get the correct CRC (cyclic redundancy check) for error checking in the Modbus protocol

■ **Brief Solution - Step by Step:**

In order to test the different Modbus function code like “Force Multiple Coils”, “Preset Single Register” and understand their difference, sometimes we will use the HEX format to send out the Modbus command according to their format.

(For the detail information about the Modbus function code, please refer to the following web-site)

<http://www.simplymodbus.ca/index.html>

With the help of the on-line CRC calculator, the user don't need to calculate the CRC for every command manually.

<http://www.lammertbies.nl/comm/info/crc-calculation.html>

Take ADAM-4150 and the function code 15 (Force Multiple Coils) as an example, if we want to turn on all DO of ADAM-4150, we will need to get the CRC of the following command:

01 0F 00 10 00 08 02 FF FF

Enter the command into the calculator then we will get the CRC "A0E7" like the following screen-shot.

"010F0010000802FFFF" (hex)	
1 byte checksum	40
CRC-16	0x50ED
CRC-16 (Modbus)	0xA0E7
CRC-16 (Sick)	0xC61E
CRC-CCITT (XModem)	0xDEC9
CRC-CCITT (0xFFFF)	0xC6BB
CRC-CCITT (0x1D0F)	0x0AC6
CRC-CCITT (Kermit)	0x271E
CRC-DNP	0x8B2B
CRC-32	0x5392FEA4

010F0010000802FFFF

Input type: ☐ ASCII ☒ Hex

By adding the CRC at the end of the command, we could use the Modbus command to turn on all DO successfully.

