

FUN31 CRC16	CRC16 Calculation (CRC16)	FUN31 CRC16
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MD : 0 · Lower byte of registers to be calculated the CRC16
 : 1 · Reserved

S : Starting address of CRC16 calculation

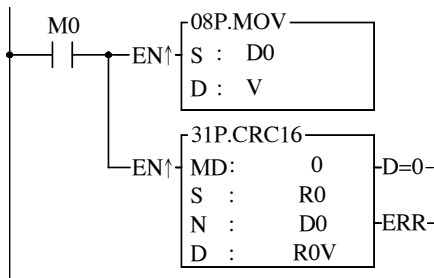
N : Length of CRC16 calculation (In Byte)

D : The destination register to store the calculation of CRC16 ·
 Register D stores the Upper Byte of CRC16
 Register D+1 stores the Lower Byte of CRC16

S · N · D may associate with V · Z index register to serve the indirect addressing application ·

Range	HR	ROR	DR	K
	R0 R3839	R5000 R8071	D0 D3071	
MD				0~1
S	○	○	○	
N	○	○	○	1~256
D	○	○*	○	

- When execution control "EN" =1 or "EN↑" (P instruction) changes from 0→1, it will start the CRC16 calculation from the lower byte of S and by the length of N, the result of calculation will be stored into register D and D+1.
- The output indication "D=0" will be ON if the value of calculation is 0.
- It will not execute the calculation and the output indication "ERR" will be ON if the length is invalid.
- When communicating with the intelligent peripheral in binary data format, the CRC16 error detection is used very often; the well known Modbus RTU communication protocol uses this method for error detection of message frame.
- CRC16 is the check value of a Cyclical Redundancy Check calculation performed on the message contents.
- Perform the CRC16 calculation on the received message data and error check value, the result of the calculation value must be 0, it means no error within this message frame.



Description : When M0 changes from 0→1, it will execute the CRC16 calculation starting from lower byte of R0, the length is assigned by D0, and then stores the CRC value into register R0+V and R0+V+1. It is supposed D0=10, the registers R10 and R11 will store the CRC16 value.

	S	
	High Byte	Low Byte
R0	Don't care	Byte-0
R1	Don't care	Byte-1
R2	Don't care	Byte-2
R3	Don't care	Byte-3
R4	Don't care	Byte-4
R5	Don't care	Byte-5
R6	Don't care	Byte-6
R7	Don't care	Byte-7
R8	Don't care	Byte-8
R9	Don't care	Byte-9

	D	
	High Byte	Low Byte
R10	00	CRC-Hi
R11	00	CRC-Lo