Communication examples
of
controller UC-5N MODBUS network communication protocol

For example, the station number of the controller is 247(F7H, default station number)

1: Read input status register

Function code: 02H

Broadcast is not supported.

Address	Description	Example	Meaning(digits in this column is decimal)
0000	Input switch status	F702000000086D5A	When reading register, must follow the principle to read 8 bits (1byte).

Note: address and data are all hexadecimal.

2: Read holding registers

(UC-5N ignore data length field, it only supports one data that read start address pointing to)

Function code: 03 H

Broadcast is not supported.

address	Description	Example	Meaning (the figure in this column is decimal figure)
0000	Station number	F7030000000 1909C	Red- station number; Green –function code; Blace- data address to be read; orange-fixed data length 1; Blue-CRC check code.
0001	MODBUS protocol type	—	
0002	Communication Baud rate	—	Preserved address, cannot be read out.
0003	Parity	—	Preserved address, cannot be read out.
0010	Controller model	F703001000019159	Response: F70302000510FE
0011	Serial number (low)	F70300110001C099	Response: F703025678 4FD3.
0012	Serial number (high)	F703001200013099	Response: F703021234 7D26. Combine the high and low order byte, serial number should be 12345678.
0013	software version	—	Response: F703020001B191, version number is 0.1 The read digit is the response data.
0014	Language	F70300140001D098	
0015	System protection password	F703001500019156	Response F70302270F2BA5, password is 9999
0020	System monitoring status register	F703002000019156	Response F703020001B191. Please refer to protocol for detailed bit definition.
0021	Power off protection function	—	Preserved address, cannot be read out.
0022	Power off protection voltage	—	Preserved address, cannot be read out.
0023	External control	F703002300016156	Response F70302004EF065. 4E is ASCII code

			of English letter 'N', which means external control function is OFF.
0024	Oil level monitoring setting	—	Preserved address, cannot be read out.
0025	Air pressure monitoring	F703002500018157	Response F70302004EF065. 4E is ASCII code of English letter 'N', which means Air pressure monitoring function is OFF.
0100	Current status of channel 1	F703010000019160	Response F7030200431A0. 43 is ASCII code of English letter 'C', which means current status of channel 1 is in LUBE state.
0110	Lubrication control mode of channel 1	—	Preserved address, cannot be read out.
0111	Lubrication control parameter of channel 1 (low)	F70301110001C165	Response F70302000AF056.
0112	Lubrication control parameter of channel 1 (high)	F703011200013165	Response F70302000007051. Combine the low (000A) and high order (0000) byte, lubrication control parameter is 0000000A (decimal value is 10)
0113	Lubrication remaining parameter of channel 1 (low)	F7030113000160A5	Response F70302000 73193.
0114	Lubrication remaining parameter of channel 1 (high)	F70301140001D164	Response F70302000007051. Combine the low (0007) and high order (0000) byte, lubrication remaining parameter is 00000007.
0120	Pause control mode of channel 1	F7030120000190AA	Response F7030200547 1AE. 54 is ASCII code of English letter 'T', which means PAUSE control mode is TIMER.
0121	Pause control parameter of channel 1 (low)	F70301210001C16A	Response F7030256784FD3.
0122	Pause control parameter of channel 1 (high)	F70301220001316A	Response F7030212347D26. Combine the low (5678) and high order (1234) byte, PAUSE control parameter is 12345678H.
0123	Pause remaining parameter of channel 1 (low)	F7030123000160AA	Response F7030245670 32B.
0124	Pause remaining parameter of channel 1 (high)	F70301240001D16B	Response F7030210233C48. Combine the low (4567) and high order (1023) byte, PAUSE remaining parameter is 10234567H.
0130	Pulse current on time of channel 1	F70301300001916F	Response F703020014705E. Current on time is 0014, convert to decimal value will be 20 (0.2 s)
0131	Pulse interval time of channel 1	—	Preserved address, cannot be read out.
0132	Pulse ratio of channel 1	F7030132000130AF	Response F703020001B191. Pulse ratio is 1:1
0133	Fine adjustment for oil	F70301330001616F	Response F7030200007051. Adjustment is

	projection for channel 1		0.
0140	Monitoring signal level setting	—	Preserved address, cannot be read out.
0141	Monitoring signal status	—	Preserved address, cannot be read out.
0142	Signal monitoring parameter of channel 1	F703014200013174	Response F703020005B052. Monitoring preset parameter is 5min
0143	Signal monitoring remaining parameter of channel 1	—	Preserved address, cannot be read out.
0144	signal counter	—	Preserved address, cannot be read out.

3: Set single register

Function code: 06H

Except address 0000, all the other addresses support broadcast.

Address	Description	Example	Meaning (the figure in this column is decimal figure)
0000	Station number (Broadcast is supported)	F706000000015C9C	Change station number to 1
0001	MODBUS protocol type	—	Preserved address, cannot be read out.
0002	Communication Baud rate	F7060002 4B00 0A6C	Set baud rate 19200(4B00H)
0003	Parity	F7060003 004F 2CA8	Odd parity 'O' (ACCII code: 4FH)
0010	Serial number (low)	—	Preserved address, cannot be read out.
0011	Serial number (high)	—	Preserved address, cannot be read out.
0012	software version	—	Preserved address, cannot be read out.
0013	Language	F7060013 0001 AD59	Set language: English
0014	System protection password	F7060014 270F 86AC	New password is decimal value: 9999
0026	System monitoring status register	—	Preserved address, cannot be read out.
0021	Power off protection setting	—	Preserved address, cannot be read out.
0022	Power off protection voltage	—	Preserved address, cannot be read out.
0023	External control setting	F7060023 004E ECA2	Set external control as 'N' , OFF
		F7060023 0045 AD65	Set external control as 'E', ON
0024	Oil level monitoring setting	—	Preserved address, cannot be read out.
0025	Air pressure monitoring setting	F7060025 004E 0CA3	Set air pressure monitoring as 'N' , OFF
		F7060025 0045 4D64	Set air pressure monitoring as 'E' , ON
0100	Current status of channel 1	—	Force to change current state with code 05
0110	Lubrication control mode of channel 1	—	Preserved address, cannot be read out.
0111	Lubrication control parameter of channel 1 (low)	F706011103E8CC1B	Combine with high order data 0000, the parameter is 1000.
0112	Lubrication control parameter of channel 1 (high)	F7060112 0000 3CA5	
0113	Lubrication remaining	—	Preserved address, cannot be read out.

	parameter of channel 1 (low)		
0114	Lubrication remaining parameter of channel 1 (high)	—	Preserved address, cannot be read out.
0120	Pause control mode of channel 1	F706012000 43DC9B	Set PAUSE control mode as 'C' (Counter)
0121	Pause control parameter of channel 1 (low)	F706012142 3FBC1A	Combine high order data 000F, set PAUSE parameter as 999999
0122	Pause control parameter of channel 1 (high)	F706012200 0F7CAE	Must write high-order first, then low-order.
0123	Pause remaining parameter of channel 1 (low)	—	Preserved address, cannot be read out.
0124	Pause remaining parameter of channel 1 (high)	—	Preserved address, cannot be read out.
0130	Pulse current on time of channel 1	F706013000 1E1CA7	Set pulse current on time as 0.3s
0131	Pulse interval time of channel 1	—	Preserved address, cannot be read out.
0132	Pulse ratio of channel 1	F706013200 02BCAE	Set pulse ratio as 2:1
0133	fine adjustment for oil injection of channel 1	F7060133000AECA8	Set adjustment as 0.1s
0140	Monitoring signal level setting	—	Preserved address, cannot be read out.
0141	Monitoring signal status	—	Preserved address, cannot be read out.
0142	Set signal monitoring parameter of channel 1	F706014200 01FD74	Set signal monitoring parameter as 1min
0143	Signal monitoring remaining parameter of channel 1	—	Preserved address, cannot be read out.
0144	signal counter	—	Preserved address, cannot be read out.

4: Force channel status change (force single coil)

Function code: 05 H

Broadcast is supported

Address	Description	Example	Meaning (figures in this column are decimal)
0000	Force channel 1 as 0	F70500000000D95C	
0000	Force channel 1 as 1	F7050000FF0098AC	
0001	Force channel 2 as 0	F70500010000889C	Force change succeed. The data frame that the slave station responses is an echo of the query
0001	Force channel 2 as 1	F7050001FF00C96C	
FFFE	Force system as 0	F705FFFE000088D8	Received the command, system reboot.
FFFE		0005FFFE00009DFF	Reboot all online slaves by broadcasting method

			(please note RED station number 0)

5: Error code

Function code: slave received function code +80H

code	Description	Meaning (figures in this column are decimal)
01	Illegal function	The function code received in the query is not an allowable action for the slave
02	Illegal data address	The data address received in the query is not an allowable address for the slave.
03	Illegal data	The value contained in the data field is not an allowable value for the slave.
06	Slave device busy	Slave device is engaged. Typical reasons are the salve is busy in processing a local manual operation or setting parameters.
07	Negative acknowledge	The slave cannot perform the program function received in the query.

If the CRC check error occurs in the frame slave received, or parity error occurs in data transmission, slave will remain silence.