



INNOVATIVE SOLAR INC. IS-1720

Modbus Document

The IS-1720 ESD Controller communicates via RS485, at 9600,N,8,1. The communication protocol is Modbus RTU.

Modbus Functions

F1 COIL STATUS (1= active, 0= off)

Address: descriptive state 1, Descriptive state 0

0: ESD Valve is active, ESD valve is reset (flowing)

1: Dump valve 1 is active, Dump valve 1 is off

2: Dump valve 2 is active, Dump valve 2 is off

F2 INPUT STATUS (1= error, 0 = safe)

0 = digital input 1

1= digital input 2

2= digital input 3

3= digital input 4

4= digital input 5

5= digital input 6

6= digital input 7

F3 HOLDING REGISTER VALUE

0= modbus address

1= firmware code

2= firmware revision

3= dump 1 time

4= dump 2 time

5= dump 1 counter

6= dump 2 counter

F4 INPUT REGISTER VALUE

0= battery voltage (value *100)

1=time since last dump 1 trigger, max of 65534 seconds

2= 1st most recent dump 1 closed time

3= 2nd most recent dump time

4= 3rd most recent dump time

5= 4th most recent dump time

6= 5th most recent dump time
7= time since last dump 2 trigger, max Of 65534 seconds
8= 1st most recent dump 2 closed time
9= 2nd most recent dump 2 closed time
10= 3rd most recent dump 2 closed time
11= 4th most recent dump 2 closed time
12= 5th most recent dump 2 closed time

F5 FORCE SINGLE COIL

Set coil 0 ON, Shutdown the ESD valve
Set coil 0 OFF, attempts to reset ESD valve

Set coil 1 ON, attempts to trigger dump 1
Set coil 1 OFF, N/A

Set coil 2 ON, attempts to trigger dump 2
Set coil 2 OFF, N/A

F6 PRESET SINGLE REGISTER

*0= Modbus address, valid values are 1 through 254
1= firmware code, force device reboot
2= firmware revision force device reboot
3=dump 1 time, valid values are 10 through 65535, * 0.5 seconds, 65535 = disable
4= dump 2 time, valid values are 10 through 65535, * 0,5 seconds, 65535 = disable
5= dump 1 counter, if set to 0 will clear counter and history
6= dump 2 counter, if set to 0 will clear counter and history

Notes: A controllers modbus address, if unknown, can be reset using a broadcast message. Ie. Send to modbus address 0.