Techsys Swordfish+ - Battcouta Modbus Address Map

The following modbus address map is applicable to the Swordfish & Barracouta Pump Controller

All operations are simple 16 bit Read Holding Register (RHR) or Write Holding Register (WHR).

Please note that RHR and WHR Addresses are offset by 40001, as an example for Schneider PLC you would use %MW40002 to read discharge pressure.

Global Run Time Variables

PLC Addr	Address	Data	Type	Description	Units
40002	1	16bit	Read	Control Variable (Pressure, Flow, Level)	
40003	2	N/A	N/A	N/A	N/A
40004	3	16bit	Read	Auxiliary Variable (Pressure, Flow, Level)	
40005	4	16bit	Read	Temperature	c
40006	5	N/A	N/A	N/A	N/A
40007	6	16bit	Read	System State	
40008	7	N/A	N/A	N/A	N/A
40009	8	N/A	N/A	N/A	N/A

0	idle/standby
1	running
2	N/A
3	N/A
4	shutdown fault
5	jockey
6	N/A

Pump Related Run Time Variables

PLC Addr	Address	Data	Type	Description	Units
	Block+0	16bit	Read	Pump State	
	Block+1	16bit	Read	Pump Speed 0 = Off, 5000 = 50Hz	Hz/100
	Block+2	N/A	N/A	N/A	N/A
	Block+3	N/A	N/A	N/A	N/A
	Block+4	16bit	Read	Pump Hours	Hrs*10
	Block+5	16bit	Read	Pump Starts	Starts
	Block+6	16bit	Read	Starts Last Hour	Starts
	Block+7	N/A	N/A	N/A	N/A

0	Px enabled
1	Px is running
2	N/A
3	Px is disabled
4	Px Protection (Pause) - CB trip
5	N/A
6	Px Fault (Stop) - NF - LOP
7	N/A
8	N/A
9	Px forced stop - Via dig input

The Above Block is repeated for all the pumps in the system
For example:- Pump 3 Hours register address is 40027+4

Pump Data Block Start Addresses

40011	10	Pump 1
40019	18	Pump 2
40027	26	Pump 3
40035	34	Pump 4
40043	42	Pump 5
40051	50	Pump 6

Input/Output Run Time Variables

The following block of addresses is reserved for application specific purposes, please consult the relevant software release notes for details

40171	170
to	to
40200	199

Configuration and Control Variables

PLC Addr	Address	Data	Type	Description	Units
40201	200	16bit	read/write	Auto On/Off	
40202	201	16bit	read/write	Cut Out Pressure	
40203	202	16bit	read/write	Cut-In Pressure	
40204	203	N/A	N/A	N/A	
40205	204	16bit	read/write	Low Pressure Shutdown	
40206	205	16bit	read/write	High Pressure Shutdown	
40207	206	N/A	N/A	N/A	
40208	207	N/A	N/A	N/A	
40209	208	16bit	read/write	Low Pressure Delay	
40210	209	16bit	read/write	High Pressure Delay	
40251	250	16bit	read	Non Averaged Pressure	
40256	255	16bit	read/write	Man On/Off - If implemented	
40401	400	16bit	read/clear	Fault Reason and Reset	
40411	410	16bit	read	Main Board Inputs	

Writing 0x00 [0000 0000] will disable all pumps (OFF)
Writing 0x07 [0000 0111] will enable the first 3 pumps (Auto)

Bit Vectored

Bit 0 = Pump 1	
Bit 1 = Pump 2	
Bit 2 = Pump 3	
Bit 3 = Pump 4	
Bit 4 = Pump 5	
Bit 5 = Pump 6	

Writing 0x04 [0000 0100] will turn pump 3 to Man
Writing 0x00 [0000 0000] returns any Man Pump to prev mode

Bit Vectored

Writing 0 to register 40401 will reset the fault, enabling the system to restart

HI_SHUTDOWN	1
LO_SHUTDOWN	2
NO_FLOW (System)	4
N/A	8
ANY PUMP FAULT (Stop)	16

Unique decimal value readings

HI_SHUTDOWN	0x01
LO_SHUTDOWN	0x02
NO_FLOW (System)	0x04
N/A	0x08
ANY PUMP FAULT (Stop)	0x10

OR Unique hex value readings