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SolarBand-C3 Modbus Configuration

1. Baud rate of 19200 bps, even parity, 8 data bits, 1 stop bit.
2. Default Modbus slave ID as 55.
3. Read holding registers using the ModBus function code 0x03 (Read Holding Registers)

SolarBand-C3 Modbus *Holding* Register Map

Register number	Parameter	Description	Formula	Units	Type / Format
0	MODBUS_ADDRESS	ModBus address	value		R/W, U16
1	SERIAL_NUMBER	Serial number, SolarBand-C3	value		R, U16
2	BAUD_RATE	Serial port baud rate	value / 10.0	bps	R, U16
3	PARITY	Serial port parity settings	0 – no parity 1 – even parity 2 – odd parity		R, U16
4	GPS_FIX	GPS fix	0 – No GPS fix 1 – GPS fix		R, U16
5	YEAR	Current year	value	year	R, U16
6	MONTH	Current month	value	month	R, U16
7	DAY	Current day	value	day	R, U16
8	HOUR	Current hour	value	hr	R, U16
9	MINUTE	Current minute	value	min	R, U16
10	SECOND	Current second	value	sec	R, U16
11	LATITUDE	Local latitude, positive for Northern hemisphere	value / 100.0 - 200.0	deg	R, U16
12	LONGITUDE	Local longitude, positive for Eastern hemisphere	value / 100.0 - 200.0	deg	R, U16
13	V_SUPPLY	Input voltage	value / 100.0	volts	R, U16
14	HEATER_STATE	State of the internal heater	0 – OFF 1 – high (4 W) 2 – low (2 W) 3 – disabled		R, U16
15	DUTY_CYCLE	Duty cycle of the heater	value (0 to 255)		R, U16
17	CF_WRITE	Write current CFs to flash	1 – write CFs 0 – do nothing		R/W, U16
22	HEATER_MODE	Set the state of the internal heater	0 – OFF 1 – high (4 W) 2 – low (2 W) 3 – disabled		R/W, U16

Register number	Parameter	Description	Formula	Units	Type / Format
26	SPA_ELV	Calculated local elevation angle	value / 100.0 - 200.0	deg	R, U16
27	SPA_AZM	Calculated local azimuth angle	value / 100.0 - 200.0	deg	R, U16
28	C3_AZM	Current azimuth position of the band	value / 100.0 - 200.0	deg	R, U16
29	INTERNAL_TEMP	Internal temperature	value / 100.0 - 100.0	^{0}C	R, U16
30	INTERNAL_HUM	Internal humidity	value / 100.0	%	R, U16
31	V_CH1	Voltage, CH1	value / 10.0	mV	R, U16
32	V_CH2	Voltage, CH2	value / 10.0	mV	R, U16
33	V_CH3	Voltage, CH3	value / 10.0	mV	R, U16
34	V_CH4	Voltage, CH4	value / 10.0	mV	R, U16
35	GHI	Broadband GHI	value / 10.0	W/m^2	R, U16
36	DHI	Broadband DHI	value / 10.0	W/m^2	R, U16
37	DNI	Broadband DNI	value / 10.0	W/m^2	R, U16
38	GHI_SI	Si range GHI (280-1200 nm)	value / 10.0	W/m^2	R, U16
39	DHI_SI	Si range DHI (280-1200 nm)	value / 10.0	W/m^2	R, U16
40	SUN_DUR	Sun duration, DNI > 120	0 or 1		R, U16
41	DIF_RATIO	Ratio, DHI/GHI	value / 1000.0		R, U16
42	CLR_INDEX	Clearness index	value / 1000.0		R, U16
43	TILT	Device tilt	value / 10.0 – 200.0	deg	R, U16
51	CAL_YEAR	Calibration year		year	R/W, U16
52	CAL_MONTH	Calibration month		month	R/W, U16
53	CAL_DAY	Calibration day		day	R/W, U16
54	REF_T	Internal temperature at calibration	value / 100.0 - 100.0	^{0}C	R/W, U16
55	CF_CH1	Calibration factor, CH1	value / 10000.0	10 x W/m2/mV	R/W, U16
56	CF_CH2	Calibration factor, CH2	value / 10000.0	10 x W/m2/mV	R/W, U16
57	CF_CH3	Calibration factor, CH3	value / 10000.0	10 x W/m2/mV	R/W, U16