



SR100-D1 register list

(0x0000)

Communication settings

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
device address	0x0000	u16	RW	The modbus device address of the instrument. Valid addresses range from 1 to 247. A reboot (hard or soft) is required to apply the settings.	N/A	1	True	Undefined
serial baud rate	0x0001	u16	RW	Serial baudrate / 100. Supported baudrates are 9600, 19200, 38400 and 115200. A reboot (hard or soft) is required to apply the settings.	N/A	192	True	Undefined
serial baud parity	0x0002	u16	RW	Parity bit setting for serial communication. A reboot (hard or soft) is required to apply the settings.	0: no parity 1: odd parity 2: even parity	2	True	Undefined
serial baud stop bits	0x0003	u16	RW	Number of stop bits for serial communication. A reboot (hard or soft) is required to apply the settings.	1: one stop bit 2: two stop bits	1	True	Undefined

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SR100-D1 register list

(0x0080)

Identification

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
product model	0x0080	string32	R-	Product model string.	N/A	N/A	True	Undefined
product type	0x0090	string32	R-	Product type identification.	N/A	N/A	True	Undefined
serial number	0x00a0	string32	R-	Serial number of the instrument.	N/A	N/A	True	Undefined
firmware version	0x00b0	string32	R-	Firmware version.	N/A	N/A	False	Undefined
product version	0x00c0	string32	R-	Product version.	N/A	N/A	False	Undefined
pcb serial number 1	0x0100	string32	R-	Serial number of pcb 1.	N/A	N/A	True	Undefined
pcb serial number 2	0x0110	string32	R-	Serial number of pcb 2.	N/A	N/A	True	Undefined
customer serial number	0x01a0	string32	R-	Customer serial number.	N/A	N/A	True	Undefined



SR100-D1 register list

(0x0200)

Irradiance

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
temperature compensated irradiance	0x0200	float	R-	The temperature compensated irradiance value (temperature-compensated-thermopile-voltage / sensitivity).	N/A	N/A	False	W/m ²
instrument temperature	0x0202	float	R-	The instrument temperature.	N/A	N/A	False	°C
uncompensated irradiance	0x0204	float	R-	The non-temperature compensated irradiance value (thermopile-voltage / sensitivity).	N/A	N/A	False	W/m ²
compensated irradiance stats	0x0220	statistic	R-	Statistic values for the compensated irradiance signal: min, max, avg, std. Reset accumulation on read.	N/A	N/A	False	W/m ²
internal temperature stats	0x0228	statistic	R-	Statistic values for temperature signal: min, max, avg, std. Reset accumulation on read.	N/A	N/A	False	°C
uncompensated irradiance stats	0x0230	statistic	R-	Statistic values for uncompensated irradiance signal: min, max, avg, std. Reset accumulation on read.	N/A	N/A	False	W/m ²



SR100-D1 register list

(0x0200)

Irradiance

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
temperature compensated irradiance int	0x0270	i32	R-	The temperature compensated irradiance value (temperature-compensated-thermopile-voltage / sensitivity) in (W/m ²)/irradiance_scaling_factor.	N/A	N/A	False	Undefined
uncompensated irradiance int	0x0272	i32	R-	The non-temperature compensated irradiance value (thermopile-voltage / sensitivity), in (W/m ²)/irradiance_scaling_factor.	N/A	N/A	False	Undefined
instrument temperature int	0x0274	i16	R-	Instrument temperature in °C / scaling_factor_temperature.	N/A	N/A	False	Undefined
scaling factor irradiance	0x0275	u16	R-	Scaling factor for irradiance_int registers. Calculated from scaling_exponent_irradiance.	N/A	100	False	Undefined
scaling factor temperature	0x0276	u16	R-	Scaling factor for instrument_temperature_int register. Calculated from scaling_exponent_temperature.	N/A	100	False	Undefined

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SR100-D1 register list

(0x0280)

Raw irradiance signals

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
raw adc word	0x0280	i32	R-	Raw ADC word.	N/A	N/A	False	LSB
temperature compensated thermopile voltage	0x0285	float	R-	Temperature compensated thermopile voltage (raw ADC word * voltage-calibration-factor / (AT ² +BT+C)).	N/A	N/A	False	V
adc voltage	0x0287	float	R-	ADC voltage (raw ADC word * voltage-calibration-factor), in V.	N/A	N/A	False	V



SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity	0x0300	float	RW	Instrument irradiance sensitivity (S), in V/(W/m ²), only persistent after the store_irradiance_calibration boolean is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date	0x0302	u64	RW	Calibration date, as u64 timestamp, only persistent after the store_irradiance_calibration boolean is set. Decimal formatting: yyyyymmss. Example: 18-03-2022 16:25 would be stored as 20220318 (time part is not stored).	N/A	N/A	True	Undefined
irradiance calibration traceability	0x0306	u16	RW	Irradiance calibration traceability register, usage not determined as of yet 0: WRR (1977).	N/A	N/A	True	Undefined
voltage calibration factor	0x030a	float	R-	Voltage calibration factor in V / LSB.	N/A	N/A	True	V/LSB
irradiance temperature compensation a	0x030c	float	R-	Temperature compensation polynomial coefficient A (quadratic term).	N/A	N/A	True	1/(°C) ²
irradiance temperature compensation b	0x030e	float	R-	Temperature compensation polynomial coefficient B (linear term).	N/A	N/A	True	1/(°C)

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance temperature compensation c	0x0310	float	R-	Temperature compensation polynomial coefficient C (offset term).	N/A	N/A	True	Undefined
store irradiance calibration	0x0320	bool	RW	When True is written to this register, the irradiance_sensitivity, irradiance_calibration_date and irradiance_traceability registers are stored persistently. Will always read back as False. Note: This is a slow operation, and can take up to a second.	N/A	N/A	False	Undefined
irradiance sensitivity history 1	0x0340	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 1	0x0342	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 1	0x0346	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined



SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 2	0x034a	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 2	0x034c	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 2	0x0350	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 3	0x0354	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 3	0x0356	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 3	0x035a	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 4	0x035e	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 4	0x0360	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 4	0x0364	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 5	0x0368	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 5	0x036a	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 5	0x036e	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 6	0x0372	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 6	0x0374	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 6	0x0378	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 7	0x037c	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 7	0x037e	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 7	0x0382	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 8	0x0386	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 8	0x0388	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 8	0x038c	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 9	0x0390	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 9	0x0392	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 9	0x0396	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 10	0x039a	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 10	0x039c	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 10	0x03a0	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 11	0x03a4	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 11	0x03a6	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 11	0x03aa	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 12	0x03ae	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 12	0x03b0	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 12	0x03b4	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 13	0x03b8	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 13	0x03ba	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 13	0x03be	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined



SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 14	0x03c2	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 14	0x03c4	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 14	0x03c8	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 15	0x03cc	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 15	0x03ce	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 15	0x03d2	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 16	0x03d6	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 16	0x03d8	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 16	0x03dc	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 17	0x03e0	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 17	0x03e2	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 17	0x03e6	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 18	0x03ea	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 18	0x03ec	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 18	0x03f0	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 19	0x03f4	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 19	0x03f6	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 19	0x03fa	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 20	0x03fe	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 20	0x0400	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 20	0x0404	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 21	0x0408	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 21	0x040a	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 21	0x040e	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 22	0x0412	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 22	0x0414	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 22	0x0418	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 23	0x041c	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 23	0x041e	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 23	0x0422	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 24	0x0426	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 24	0x0428	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 24	0x042c	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 25	0x0430	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 25	0x0432	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 25	0x0436	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 26	0x043a	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 26	0x043c	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 26	0x0440	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 27	0x0444	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 27	0x0446	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 27	0x044a	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 28	0x044e	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 28	0x0450	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 28	0x0454	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 29	0x0458	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 29	0x045a	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 29	0x045e	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 30	0x0462	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 30	0x0464	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 30	0x0468	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance sensitivity history 31	0x046c	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 31	0x046e	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 31	0x0472	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0300)

Irradiance calibration

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
irradiance sensitivity history 32	0x0476	float	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	V/(W/m ²)
irradiance calibration date history 32	0x0478	u64	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined
irradiance calibration traceability history 32	0x047c	u16	R-	Read only. Automatically updated when store_irradiance_calibration register is set.	N/A	N/A	True	Undefined

HUKX

SR100-D1 register list

(0x0480)

Thermopile resistance

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
thermopile resistance	0x0480	float	R-	Thermopile resistance in Ω .	N/A	N/A	True	Ω
determine thermopile resistance	0x0482	bool	RW	Triggers a thermopile resistance measurement and updates the result in the thermopile_resistance register.	N/A	N/A	False	Undefined
thermopile shunt resistor value	0x0483	float	R-	Value of thermopile shunt sensing resistor used to compute the thermopile resistance.	N/A	N/A	True	Ω
thermopile current sensing resistor value	0x0485	float	R-	Value of thermopile current sensing resistor used to determine the thermopile resistance, in Ω .	N/A	499	True	Ω
determine thermopile resistance at startup	0x0487	bool	RW	Enable the thermopile resistance measurement at startup.	N/A	false	True	Undefined
thermopile resistance int	0x0488	u16	R-	Thermopile resistance in 1/10 of Ω .	N/A	N/A	False	$\Omega \times 1/10$

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SR100-D1 register list

(0x0680)

Internal humidity

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
internal relative humidity	0x0680	float	R-	The internal relative humidity in %.	N/A	N/A	False	%
internal high humidity threshold	0x0684	u16	RW	High internal relative humidity threshold in %. The threshold above which the high humidity indicator flag is set.	N/A	40	True	%
internal high humidity indicator	0x0685	bool	R-	High internal humidity indicator.	N/A	N/A	False	Undefined
internal relative humidity int	0x0686	u16	R-	The internal relative humidity in 1/100 of %.	N/A	N/A	False	% x 1/100
internal relative humidity stats	0x06e0	statistic	R-	Statistic values for internal relative humidity signal: min, max, avg, std. Reset accumulation on read.	N/A	N/A	False	%

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SR100-D1 register list

(0x0880)

Status

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
device status 1	0x0880	u16	R-	Device status register 1: bit 15: future use, bit 14: future use, bit 13: future use, bit 12: aliases status after startup, bit 11: default-settings mode, bit 10: maintenance mode, bit 9: relative humidity high, bit 8: humidity sensor communication error, bit 7: temperature sensor communication error, bit 6: ADC communication error, bit 5: thermopile resistance out of bounds, bit 4: calibration history full, bit 3: calibration history cleared, bit 2: calibration successful, bit 1: future use, bit 0: new data (irr + temp) available.	N/A	N/A	False	Undefined
uptime counter	0x08a0	u32	R-	Uptime counter that starts counting every second after device boot.	N/A	N/A	False	Undefined
adcmcu assert counter	0x08a2	u32	R-	The amount of times an assert has failed on the ADCMCU. Writing 0 to the register will reset the value.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x0900)

Maintenance

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
maintenance mode	0x0900	u16	RW	Maintenance mode switch. Intended for factory use only. Will always read as 0x0000 when not active.	N/A	N/A	False	Undefined
soft reboot	0x0901	u16	RW	Soft restart when the special value 0x587f is written. Restart into bootloader for firmware upgrade when special value 0xa54c is written. All other values will be ignored.	22655: soft restart 42316: bootloader restart	N/A	False	Undefined

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SR100-D1 register list

(0x1000)

Modbus mapping

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
alias address	0x1000	u16	RW	The alias or new address of a register. Writing to this register will cause the 'original_address' register to be updated with the original address of the register for the selected alias address. To place a register at the alias address, write the original address of that register to the 'original_address' register. Note that it is possible to map a different register over the registers that control aliases. In that case it is still possible to make changes to the aliases, either through the default-settings mode or through the Read Default Map Registers and Write Default Map Registers function codes.	N/A	N/A	True	Undefined

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SR100-D1 register list

(0x1000)

Modbus mapping

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
original address	0x1001	u16	RW	The original address of a register. Will be updated by setting 'aliased_address'. If the aliased address does not exist, this register will contain 0xFFFF. Writing to this register will update an alias. This should always be the first or starting address of a register (in case of a register that spans multiple addresses). If another address is written, the alias address to original address configuration is accepted but ignored when accessing alias address. Note that it is not possible to remove an alias. It is only possible to remove all aliases.	65535: alias non existent	N/A	False	Undefined
erase aliases	0x1002	u16	RW	Write 0x990E to erase all existing aliases. Writing any other value is rejected.	39182: erase all aliases	N/A	False	Undefined

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SR100-D1 register list

(0x1000)

Modbus mapping

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
aliases status after startup	0x1003	bool	RW	Indication and control of persistent register aliases status the device assumes after the startup. True means register aliases are taken into account for a Modbus request, false - ignored.	N/A	true	True	Undefined
aliases status	0x1004	bool	RW	Indication and control of register aliases status done in non-persistent manner. True means register aliases are taken into account for a Modbus request, false - ignored.	N/A	N/A	False	Undefined

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SR100-D1 register list

(0xfa00)

Adc 0x compatibility

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
dummy	0xfa00	u16	R-	Used for mapping purpose, e.g. to close gaps in mapping space. Always reads as 0.	N/A	N/A	False	Undefined
raw sensor signal	0xfa01	i32	R-	ADC voltage (raw ADC word * voltage-calibration-factor), in nV.	N/A	N/A	False	nV
sensor sensitivity	0xfa03	float	R-	Instrument irradiance sensitivity (S), in uV/(W/m2).	N/A	N/A	False	uV/(W/m2)
sensor type	0xfa05	string16	R-	Product model string.	N/A	N/A	False	Undefined
sensor calibration date	0xfa0d	u32	R-	Calibration date of the instrument in YYYYMMDD.	N/A	N/A	False	Undefined
sensor sensitivity history 1	0xfa0f	float	R-	History of instrument irradiance sensitivity (S), in uV/(W/m2).	N/A	N/A	False	uV/(W/m2)
sensor sensitivity history 2	0xfa11	float	R-	History of instrument irradiance sensitivity (S), in uV/(W/m2).	N/A	N/A	False	uV/(W/m2)
sensor sensitivity history 3	0xfa13	float	R-	History of instrument irradiance sensitivity (S), in uV/(W/m2).	N/A	N/A	False	uV/(W/m2)
sensor sensitivity history 4	0xfa15	float	R-	History of instrument irradiance sensitivity (S), in uV/(W/m2).	N/A	N/A	False	uV/(W/m2)
sensor sensitivity history 5	0xfa17	float	R-	History of instrument irradiance sensitivity (S), in uV/(W/m2).	N/A	N/A	False	uV/(W/m2)

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SR100-D1 register list

(0xfa00)

Adc 0x compatibility

Register name	Register address	Register type	Register access	Register description	Enumeration	Default value	Persistent	Unit
sensor calibration date history 1	0xfa19	u32	R-	History of calibration date of the instrument in YYYYMMDD.	N/A	N/A	False	Undefined
sensor calibration date history 2	0xfa1b	u32	R-	History of calibration date of the instrument in YYYYMMDD.	N/A	N/A	False	Undefined
sensor calibration date history 3	0xfa1d	u32	R-	History of calibration date of the instrument in YYYYMMDD.	N/A	N/A	False	Undefined
sensor calibration date history 4	0xfa1f	u32	R-	History of calibration date of the instrument in YYYYMMDD.	N/A	N/A	False	Undefined
sensor calibration date history 5	0xfa21	u32	R-	History of calibration date of the instrument in YYYYMMDD.	N/A	N/A	False	Undefined
truncated serial number	0xfa23	u16	R-	Truncated representation of the instrument serial number. Truncation is done by removing all, if any, non-digit characters and applying the modulo 60000 operation on the result.	N/A	N/A	False	Undefined