

Table of Content

Connection and configuration 3

Wiring..... 3

Configuration 3

Functional check..... 4

Appendix..... 5

General compatibility list of the CS141 product family 5

Standard UPS – Address Description – Query from SNMP_PROF 5



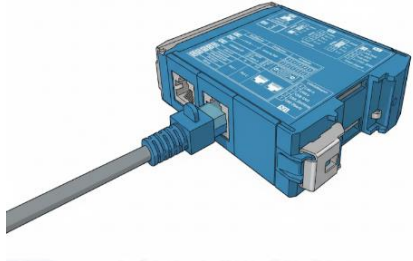
Connection on delivery with enclosed cable (RS232)..... 9

Daisy-Chain Connection..... 9

Connection and configuration

Wiring

The SNMP_PROF comes with pre-assembled cables.

		
<p>Connect the mini-DIN connector to the CS141</p>	<p>Connect the pre-assembled power adapter.</p>	<p>Connect the SM_PROF to your network</p>

Configuration

- a. At the Profinet adapter SNMP_PROF

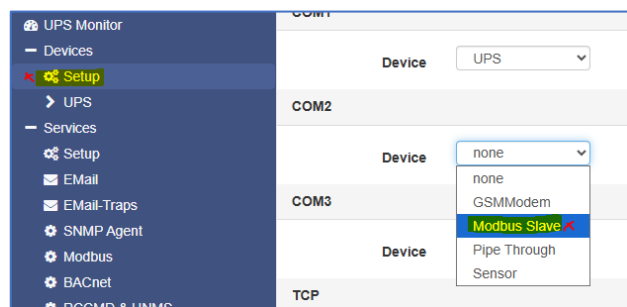
The SNMP_PROF is preconfigured at the factory. You simply need to assign a valid IP address via the Profinet master you are using.

- b. At the CS141 / BACS, the SNMP_PROF uses Modbus for communication and convert the data to Profinet. To enable communication, the COM2 port on the CS141 must be configured as follows:

Step 1: Enable the interface

Open Devices>Setup

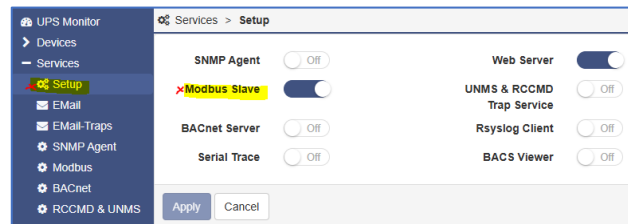
Set the COM2 port to “Modbus Slave” and press “Apply”.



Step 2: Enable the service

Open Services>Setup

Move the slider for “Modbus Slave” to ON and press “Apply”.



The SNMP_PROF device itself is preconfigured; no further settings are necessary.

Functional check

As soon as the data connection between the CS141 / BACS and the Profinet master has been established, the color code of the LEDs on the device will change:

- State changes the static LED color from red to green.
- RS Rx/Rx flashes alternating irregularly green and orange
- X60 flashes green regularly

Depending on the network port usage:

- PN Link 1 or 2 lights up statically





Appendix

General compatibility list of the CS141 product family

product	compatibility
CS141L	YES
CS141SC	YES
CS141LM	NO
CS141SCM	NO
CS141BSC	NO
CS141 BL	This model is no longer available.
CS141R_2	YES *
CS141MINI	YES *
Site Manager	NO
Site Monitor	NO
BACSKIT	YES

*) : Please order the PROF_MR

Standard UPS – Address Description – Query from SNMP PROF

The SNMP_PROF gateway sends the Modbus queries independently, cyclically to the CS141.

If the Modbus response is valid, the UPS data is sent cyclically to Profinet with an additional counter (byte) and Modbus error byte. IMPORTANT: The "64 Word I/O (Consistent)" module from the GSD file must be used in the Profinet master. The assignment of the UPS data to the bytes sent on Profinet can be found in the following table.

byte	name	Description	length
1	Counter	Increase at valid answer	1 byte
2	Modbus Error Byte	Data valid if 0x00 only	1 byte
3 + 4	OUTPOWER0	Outpower Phase 1%	1 Word
5 + 6	OUTPOWER1	Outpower Phase 2%	1 Word
7 + 8	OUTPOWER2	Outpower Phase 3%	1 Word
9 + 10	BATTCAP	Battery Capacity %	1 Word
11 + 12	INVOLT0	Input Voltage Phase 1 V	1 Word
13 + 14	INVOLT1	Input Voltage Phase 2 V	1 Word
15 + 16	INVOLT2	Input Voltage Phase 3 V	1 Word
17 + 18	TEMPDEG	Temperature C°	1 Word
19 + 20	AUTONOMOUSTIME	Autonomy Time minutes	1 Word
21 + 22	STATUS (eg UPS normal = "4", Powerfail = "12", Battery test running = "68", bypass = "5")	UPS Status (ASCII HEX) Note: UPSMAN status bytes table below	1 Word



23 + 24	BATTVOLT	Battery Voltage V	1 Word
25 + 26	INFREQ0	Input Frequency Hz Phase 1	1 Word
27 + 28	INFREQ1	Input Frequency Hz Phase 2	1 Word
29 + 30	INFREQ2	Input Frequency Hz Phase 3	1 Word
31 + 32	CNT_PF	Powerfail Counter	1 Word
33 + 34	Alarm Battery Bad	1 = active; 0 = not active	1 Word
35 + 36	Alarm: On Battery	1 = active; 0 = not active	1 Word
37 + 38	Alarm: Battery Low	1 = active; 0 = not active	1 Word
39 + 40	Alarm: Battery Depleted	1 = active; 0 = not active	1 Word
41 + 42	Alarm: Over temperature	1 = active; 0 = not active	1 Word
43 + 44	Alarm: Input Bad	1 = active; 0 = not active	1 Word
45 + 46	Alarm: Output Bad	1 = active; 0 = not active	1 Word
47 + 48	Alarm: Output Overload	1 = active; 0 = not active	1 Word
49 + 50	Alarm: On Bypass	1 = active; 0 = not active	1 Word
51 + 52	Alarm: Bypass Bath	1 = active; 0 = not active	1 Word
53 + 54	Alarm: Output Off as requested.	1 = active; 0 = not active	1 Word
55 + 56	Alarm: UPS Off as requested.	1 = active; 0 = not active	1 Word
57 + 58	Alarm: Charger Failed	1 = active; 0 = not active	1 Word
59 + 60	Alarm: UPS Output Off	1 = active; 0 = not active	1 Word
61 + 62	Alarm: UPS System Off	1 = active; 0 = not active	1 Word
63 + 64	Alarm: Fan Failure	1 = active; 0 = not active	1 Word
65 + 66	Alarm: fuse failure	1 = active; 0 = not active	1 Word
67 + 68	Alarm: general fault	1 = active; 0 = not active	1 Word
69 + 70	Alarm: diagnostic test failed	1 = active; 0 = not active	1 Word
71 + 72	Alarm: communication lost	1 = active; 0 = not active	1 Word
73 + 74	Alarm: awaiting power	1 = active; 0 = not active	1 Word
75 + 76	Alarm: shutdown pending	1 = active; 0 = not active	1 Word



77 + 78	Alarm: shutdown imminent	1 = active; 0 = not active	1 Word
79 + 80	Alarm: test in progress	1 = active; 0 = not active	1 Word
81 + 82	AUX Port 1	1 = active (high) 0 = not active (low)	1 Word
83 + 84	AUX Port 2	1 = active (high) 0 = not active (low)	1 Word
85 + 86	AUX Port 3	1 = active (high) 0 = not active (low)	1 Word
87 + 88	AUX Port 4	1 = active (high) 0 = not active (low)	1 Word
89 + 90	BACS State	refer to table below	1 Word
91 + 92	BACS State 1	refer to table below	1 Word
93 + 94	BACS Alarms	refer to table below	1 Word
95 + 96	BACS_NUMSTRINGS	Number of BACS Strings	1 Word
97 + 98	BACS_NUMMODULES	Total number of BACS modules	1 Word
99 + 100	BACS Alarms 1	refer to table below	1 Word

BACS State: hexadecimal / decimal / BIN :

BACS State	hexadecimal	decimal	BIN
BACS_STATE_NONE	0x0000	0	0000 0000 0000 0000
BACS_STATE_RUNNING	0x0001	1	0000 0000 0000 0001
BACS_STATE_CONNECTED	0x0002	2	0000 0000 0000 0010
BACS_STATE_MODULE_LOST	0x0004	4	0000 0000 0000 0100
BACS_STATE_DISCHARGING	0x0008	8	0000 0000 0000 1000
BACS_STATE_CHARGING	0x0010	16	0000 0000 0001 0000
BACS_STATE_DISCHARGING_STOPPED	0x0020	32	0000 0000 0010 0000
BACS_STATE_FLOAT_CHARGING	0x0040	64	0000 0000 0100 0000
BACS_STATE_EQUALISATION	0x0080	128	0000 0000 1000 0000
BACS_STATE_SYSTEM_FAILURE	0x0100	256	0000 0001 0000 0000
BACS_STATE_VOLTAGE_OUTOFRANGE	0x0200	512	0000 0010 0000 0000
BACS_STATE_TEMPERATURE_OUTOFRANGE	0x0400	1024	0000 0100 0000 0000
BACS_STATE_RESISTOR-OUTOFRANGE	0x0800	2048	0000 1000 0000 0000
BACS_STATE_MODULE-ADDRESSING	0x1000	4096	0001 0000 0000 0000
BACS_STATE_MODULE-SEARCHING	0x2000	8192	0010 0000 0000 0000
BACS_STATE_MODULE-INITIALIZING	0x4000	16384	0100 0000 0000 0000
BACS_STATE_MODULE-POLLING	0x8000	32768	1000 0000 0000 0000

BACS State 1 : hexadecimal / decimal / BIN:

BACS State	hexadecimal	decimal	BIN
BACS_STATE_NONE	0x0000	0	0000 0000 0000 0000
BACS_STATE-GENERAL-ALARM	0x0001	1	0000 0000 0000 0001
BACS_STATE-VOLTAGE-DIFF-HIGH	0x0002	2	0000 0000 0000 0010
BACS_STATE-BATTERY-BREAKER-OPEN	0x0004	4	0000 0000 0000 0100
BACS_STATE_THERMAL_RUNAWAY	0x0008	8	0000 0000 0000 1000
BACS_STATE_SENSOR_LOST	0x0010	16	0000 0000 0001 0000
BACS_STATE_STRING_VOLTAGE_HIGH	0x0020	32	0000 0000 0010 0000
BACS_STATE_STRING_VOLTAGE_LOW	0x0040	64	0000 0000 0100 0000
BACS_STATE_STRING_VOLTAGE_WARNING_HIGH	0x0080	128	0000 0000 1000 0000
BACS_STATE_STRING_VOLTAGE_WARNING_LOW	0x0100	256	0000 0001 0000 0000
BACS_STATE_STRING_CURRENT_HIGH	0x0200	512	0000 0010 0000 0000
BACS_STATE_STRING_CURRENT_LOW	0x0400	1024	0000 0100 0000 0000
BACS_STATE_STRING_CURRENT_WARNING_HIGH	0x0800	2048	0000 1000 0000 0000
BACS_STATE_STRING_CURRENT_WARNING_LOW	0x1000	4096	0001 0000 0000 0000
BACS_STATE_CURRENT_OUTOFRANGE	0x2000	8192	0010 0000 0000 0000
BACS_STATE_CURRENT_GROUND_FAULT_DETECTED	0x4000	16384	0100 0000 0000 0000
BACS_STATE_CURRENT_SENSOR_CONNECTION_LOST	0x8000	32768	1000 0000 0000 0000



BACS Alarm Flags: hexadecimal / decimal / BIN:

BACS Alarm Flag	hexadecimal	decimal	BIN
BACS_ALARM_NONE	0x0000	0	0000 0000 0000 0000
BACS_ALARM_GENERAL_ALARM	0x0001	1	0000 0000 0000 0001
BACS_ALARM_COMMUNICATION_LOST	0x0002	2	0000 0000 0000 0010
BACS_ALARM_VOLTAGE_HIGH	0x0004	4	0000 0000 0000 0100
BACS_ALARM_VOLTAGE_LOW	0x0008	8	0000 0000 0000 1000
BACS_ALARM_TEMPERATURE_HIGH	0x0010	16	0000 0000 0001 0000
BACS_ALARM_TEMPERATURE_LOW	0x0020	32	0000 0000 0010 0000
BACS_ALARM_RESISTOR_HIGH	0x0040	64	0000 0000 0100 0000
BACS_ALARM_RESISTOR_LOW	0x0080	128	0000 0000 1000 0000
BACS_ALARM_EQUALISATION_ERR	0x0100	256	0000 0001 0000 0000
BACS_ALARM_VOLTAGE_WARN_HIGH	0x0200	512	0000 0010 0000 0000
BACS_ALARM_VOLTAGE_WARN_LOW	0x0400	1024	0000 0100 0000 0000
BACS_ALARM_TEMPERATURE_WARN_HIGH	0x0800	2048	0000 1000 0000 0000
BACS_ALARM_TEMPERATURE_WARN_LOW	0x1000	4096	0001 0000 0000 0000
BACS_ALARM_RESISTOR_WARN_HIGH	0x2000	8192	0010 0000 0000 0000
BACS_ALARM_RESISTOR_WARN_LOW	0x4000	16384	0100 0000 0000 0000
BACS_ALARM_MODREV_INCOMPATIBLE*	0x8000	32768	1000 0000 0000 0000

**) Also triggered in case of module calibration mismatch!*

BACS Alarms Flags 1: hexadecimal / decimal / BIN:

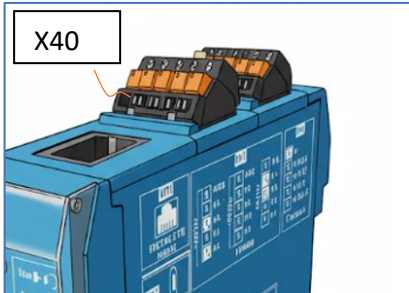
BACS Alarm Flags	hexadecimal	decimal	BIN
BACS_ALARM_NONE	0x0000	0	0000 0000 0000 0000
BACS_ALARM_CURRENT_SENSOR_HIGH	0x0001	1	0000 0000 0000 0001
BACS_ALARM_CURRENT_SENSOR_LOW	0x0002	2	0000 0000 0000 0010
BACS_WARNING_CURRENT_SENSOR_HIGH	0x0004	4	0000 0000 0000 0100
BACS_WARNING_CURRENT_SENSOR_LOW	0x0008	8	0000 0000 0000 1000
BACS_ALARM_EQUALIZING_CUTOFF	0x0010	16	0000 0000 0001 0000
BACS_ALARM_DISCHARGE_CURRENT_DEVIATION	0x0020	32	0000 0000 0010 0000
BACS_ALARM_CHARGE_CURRENT_DEVIATION	0x0040	64	0000 0000 0100 0000
BACS_WARNING_DISCHARGE_CURRENT_DEVIATION	0x0080	128	0000 0000 1000 0000
BACS_WARNING_CHARGE_CURRENT_DEVIATION	0x0100	256	0000 0001 0000 0000
BACS_ALARM_RCM_CURRENT_DIFFERENCE	0x0200	512	0000 0010 0000 0000
BACS_ALARM_CURRENT_SENSOR_CONNECTION_LOST	0x0400	1024	0000 0100 0000 0000
BACS_ALARM_GX_R_AUX_CONNECTION_LOST	0x0800	2048	0000 1000 0000 0000
BACS_ALARM_STRING_CHARGE_LOW	0x1000	4096	0001 0000 0000 0000
BACS_WARNING_STRING_CHARGE_LOW	0x2000	8192	0010 0000 0000 0000



Connection on delivery with enclosed cable (RS232)

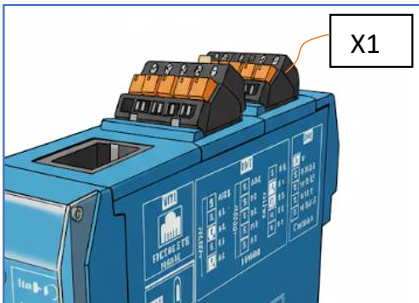
It is currently not possible to use the SITEMANAGER, SITEMONITOR or CS141LM/SCM with an RS485 interface on COM 2.

- Connect the data cable (CS121_TEMP with open wires) to terminal X40 as follows:



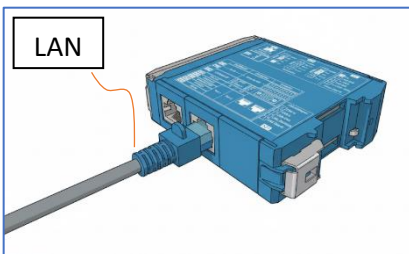
Terminal Adapter X40		
Pin 1	NC	Empty
Pin 2	TX	Brown
Pin 3	NC	Empty
Pin 4	RX	Red
Pin 5	SGND	Black

- Connect the power connector to terminal X1



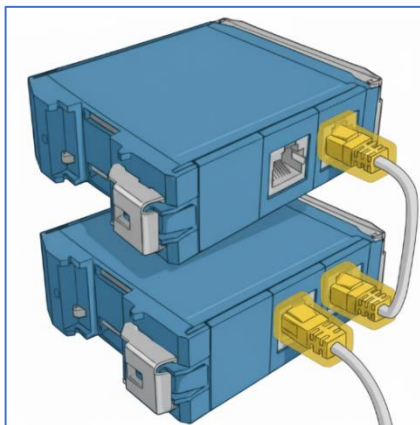
Terminal adapter X1 (observe polarity!)		
Pin 1	V+ 10-33V	V+ power source
Pin 2	GND	V - Power source
Pin 3	V+ (Out)	Empty
Pin 4	GND (Out)	Empty
Pin 5	NC	Empty

- Connect the SM_PROF to your network



There are two RJ45 ports on the bottom of the device. Connect one of the two ports to your network.

Daisy-Chain Connection



To save LAN ports, multiple adapters can be connected in a daisy chain.

Connect the LAN port of the first adapter to your network, and then the next adapter to the free second LAN port of the previous SM_PROF.

The query is then carried out based on the individually assigned IP address.

