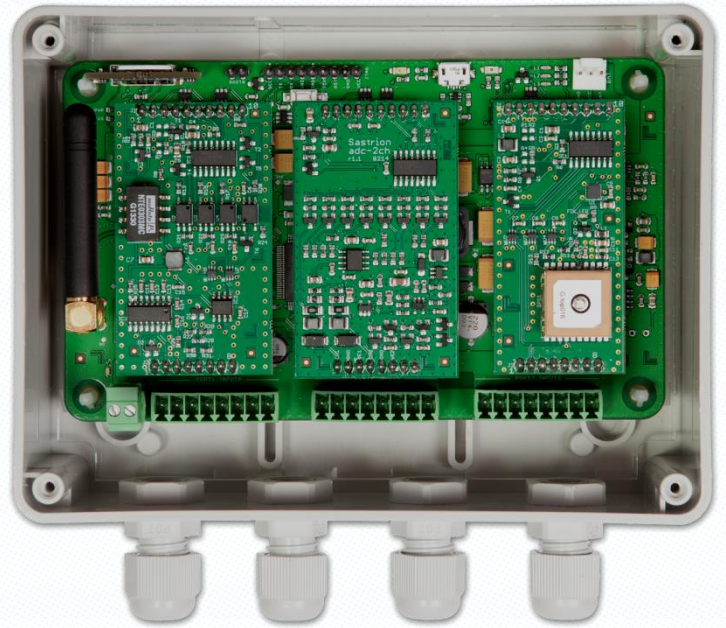


- Internal quad band GPRS modem
- Dual SIM function
- Easily adaptable to any application using up to 3 extension boards
- Available extension boards include analog, digital, and location
- External and internal power supply options
- Built-in high current battery charger
- Low power sleep mode for years of unattended operation
- Fully configurable using web interface
- IP65 enclosure with 4 cable glands



Sastrion's remote telemetry module has been designed to fully integrate with our cloud M2M solution – Telemetria Online.

### Device features:

- Supports GPRS and SMS transmission modes
- Dual SIM for connection redundancy
- Low power sleep mode with scheduled and event triggered wake ups allows for years of unattended battery operation
- Internal 2MB flash memory for data logging and configuration database
- External micro SD card socket for extended data storage
- Remote device configuration using web interface and SMS
- Optical enclosure tamper detection sensor
- Automatic over-the-air (OTA) firmware upgrades
- Convenient removable terminal block connectors

### Cloud based features:

- User defined alarms on any measured parameter
- Support for Modbus RTU protocol

General	
<b>Dimensions</b>	160 x 120 x 75 mm
<b>Weight</b>	500 g
<b>Operating temperature</b>	-20 to +65°C
<b>Protection class</b>	IP65
<b>Connectors</b>	3 x 8 pin 3.8mm pitch for extension boards

Communications	
<b>GSM</b>	Quad Band (850/900/1800/1900Mhz)
<b>Output power</b>	Class 4 (2W) 850/900 MHz Class 1 (1W) 1800/1900 MHz
<b>SIM card</b>	Two Micro SIM sockets
<b>Antenna</b>	Detachable internal antenna (50Ω SMA connector)

Power supply			
<b>DC</b>	10 to 24V		
<b>Battery</b>	Li-Ion battery pack (4, 6, 13 Ah)		
<b>Charger</b>	Built-in 3A li-ion charger		
Current consumption [A] (@ 12V DC)			
<b>Sleep</b>	<b>Idle</b>	<b>Active</b>	<b>Max</b>
0.0001	0.06	0.1	2.0

Estimated battery lifetime [13 Ah battery, 25°C, 60 s of activity]	
Acquisition period [hours]	Lifetime [days]
1	271
6	1302
12	2099
24	3026

Analog extension board	
Channels	2
Input modes	0-5V, 0-10V, 4-20mA
Current mode impedance	100Ω
Sensors excitation voltage	5V, 12V, 24V
Max sensor current	100 mA
ADC resolution	12 bit
Accuracy	< 1%
Max sampling frequency	1kHz

- Two independent input channels
- Input mode, excitation voltage, and offset configured via web interface
- High accuracy and resolution
- High sampling frequency
- Data logger mode

Digital extension board	
Interface type	RS232/RS485
Isolation voltage	3.7 kV
Maximum baud rate	115200 bps

- Galvanic isolation for increased reliability
- Two cards can work in a bridge mode which allows for concurrent access from web interface and DCS to a single device

Location and time extension board	
GNSS systems	GPS/GLONASS
GNSS features	AGPS, DGPS
Position accuracy	Standard: 3.0m (50% CEP) DGPS: 2.5m (50% CEP)
PPS output accuracy	± 10nS RMS
Motion detection	3 axis accelerometer (±2g/±4g/±8g/±16g) scale
Current consumption	30 mA max

- Dual system satellite receiver for increased accuracy
- Allows for RTU wakeup from low power mode on motion detection
- PPS output for precise time synchronization of external systems

Radio extension board	
Radio frequency	2.4 GHz
Output power	10 dBm
Receiver sensitivity	-104 dBm
Standard	802.15.4
Encryption	AES 128
Antenna	Internal chip antenna or external 5dBi antenna (50Ω IPX connector)
Maximum baud rate	250 kbit

- Supports RPL over 6LoWPAN mesh routing protocol

GPIO extension board	
Inputs/outputs	6
Isolation voltage	3.5 kV
Max counting frequency	100 kHz
Max PWM frequency	100 kHz
Max input voltage	40 V
Input resistance	10 kΩ
Max peak transient pulse	400W

- Galvanic isolation for increased reliability
- High frequency counter inputs
- Allows for RTU wakeup from low power mode on input state change

Bluetooth 3.0 extension board	
Radio frequency	2.4 GHz
Output power	15 dBm
Receiver sensitivity	-80 dBm
Encryption	AES 128
Antenna	Internal patch antenna
Maximum baud rate	2.1 Mbit

- Fully certified Class 1 Bluetooth 2.1 + EDR module
- Supports SPP (UART) and HCI profiles



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