



Features

- Enhances communication capabilities of CSP probes
- Compatible with all CSP (Canberra™ Smart Probes)
- Allows remote communication between probes and monitor via wired or wireless network
- Allows multiple probes connection to one monitor
- Wired interfaces available: Ethernet POE, RS-485
- Wireless interfaces available: Wi-Fi, Bluetooth®, RF 915 MHz, RF868 MHz
- Integrated rechargeable battery with battery life up to 25 hours

CSP-COM™ Communication Modules for CSP™ Probes



Description

The CSP-COM module is ideal for remote monitoring applications, monitoring radiation in hot zones without human intervention or to centralize data acquisition. It can also simplify instrument installation by eliminating cables. The CSP-COM module can be plugged into any CSP probe. It enhances communication features of the CSP probe by increasing the communication distance between the probe and the terminal.

CSP-COM module interfaces with the CSP probe on most common networks. It handles all communication tasks (transmission, reception, data, buffer ...) and even serves as the probe power supply, as it features an integrated rechargeable battery. It can also be mains operated through its power connector.

Most common networks are supported by the CSP-COM module including wireless connections (Wi-Fi, Bluetooth, RF) and wired networks such as Ethernet and RS-485). When plugged into the CSP-COM module, the CSP probe can be placed in any location where a network connection is available.

Wireless CSP-COM

This implementation is ideal for monitoring areas where no cabling is available (typically hot zones), outdoors, or for mobile applications. They are also very easy and fast to install in isolated areas.

CSP-COM Bluetooth is designed for short distance communication 20 m (65 ft). It is ideal for use in place of a cable, thus eliminating cable length constraints and connector issues making it easy to install in inaccessible areas. Bluetooth allows for the multiplexing of up to seven probes. Its battery life makes it ideal for daily use. It is a perfect match for a wireless-enabled survey meter such as the Colibri® device.

CSP-COM Communication Modules for CSP Probes

CSP-COM Wi-Fi, combined with an existing network and Wi-Fi base stations, can quickly build a measurement network. Wi-Fi is effectively able to multiplex a large number of probes with a reasonable communication distance (up to 100 m). Monitoring a Wi-Fi-enabled area becomes very easy as probes can be located at critical areas and transmit their measurement immediately to a remote terminal. The CSP-COM Wi-Fi module can also communicate directly with any Wi-Fi-enabled PC without any additional hardware or with a wireless-enabled survey meter such as the Colibri device.

The CSP-COM RF module is perfect for creating a remote monitoring installation in a building. As a result of its frequency and power, RF communication is able to transmit and receive through concrete more efficiently than other wireless technologies. Also, combined with RF repeaters supplied by Mirion, the communication range of RF can be extended to virtually any distance. Therefore CSP-COM RF can be used for applications such as remote measurement in hot zones without human presence, thus improving safety and ALARA. It can also be used for remote monitoring inside buildings when a Wi-Fi base station network is not available. Mirion also provides an RF base station to enable RF reception on a PC or server. The CSP-COM RF module comes in two versions: the 868 MHz and 915 MHz.

Wired CSP-COM

The Wired module can be used in sites which are already cabled with Ethernet or classical twisted pair.

The CSP-COM Ethernet PoE (Power on Ethernet) allows for the connection of any CSP probe into an Ethernet network and assigning an address to each probe. Its PoE feature allows power to be brought directly by the Ethernet cable as long as the network is PoE compatible. The CSP-COM module integrated battery is then used as a backup battery. CSP-COM Ethernet is compatible with any third party Ethernet equipment.

CSP-COM RS-485 module is ideal for re-using existing cabling, such as twisted pair, in old sites where Ethernet cable is not available.

Terminals for CSP-COM

PC/Tablet PC with CSP-DLL based software:

Any PC operating Windows with CSP-DLL-based software can interface with any CSP-COM module. Such software can monitor several probes simultaneously coming from different CSP-COM modules regardless of transmission standard.

Colibri Meter

The Colibri survey meter is able to interface directly with CSP-COM Bluetooth modules, thus handling several probes at a time and communicating wirelessly with CSP probes.



Figure 1: CSP-COM RF configuration with Base Station-Repeater.



Figure 2: CSP-COM RF Base Station-Repeater.

CSP-COM Communication Modules for CSP Probes

Name	Radiation Displayed	Detector Type	Detector Size
SG 1R	γ, X	Nal Scintillator	1" \varnothing x 1"
SG 2R	γ, X	Nal Scintillator	2" \varnothing x 2"
SAB 100	α, β	Phoswich	100 cm ²
SABG 100	α, β, γ	Phoswich	101 cm ²
SA 100	α	ZnS Scintillator	100 cm ²
SB 100	β	Plastic Scintillator	100 cm ²
SA 20	α	ZnS Scintillator	20 cm ²
SB 20	β	Plastic Scintillator	20 cm ²
SX 2R	X	Thin Nal	1.5" \varnothing x 3 mm
SPAB 15	α, β	PIPS [®]	15 cm ²
STTC	γ $H^+(10)$	Geiger Mueller	10 mm \varnothing x 27 mm

Figure 3: Non exhaustive list of compatible probes.

		Frequency	Communication Distance (Direct line of sight)	Emitting Power	Simultaneous Connections	Battery Life
Wireless	Bluetooth	2.4 GHz	15 to 20 m	2.5 mW	up to 7	25 h
	Wi-Fi	2.4 GHz	100 m	25 mW	Network dependant	3 h
	RF	868 MHz	1 km	500 mW	up to 200	15 h
	RF	915 MHz	1 km	500 mW	up to 200	15 h
Wired	Ethernet	NA	Depends on network topology	NA	Network dependant	2 h
	RS-485	NA	Depends on network topology	NA	up to 200	20 h

Figure 4: CSP-COM modules features summary.

CSP-COM Communication Modules for CSP Probes

Integrated battery

The CSP-COM module features an integrated Li-ion rechargeable battery which is easy to recharge with any compatible charger (provided with the CSP-COM unit). The Li-ion battery is lightweight and does not have any hysteresis effect. The CSP-COM modules can then be constantly powered and ready for use at any time.

Easy to Use

The CSP-COM module is easy to adapt: it is plugged directly into any CSP probe with an adaptation ring as shown in Figure 5. Its lightweight and small volume allows the usage of the probe either in mobile or fixed applications.

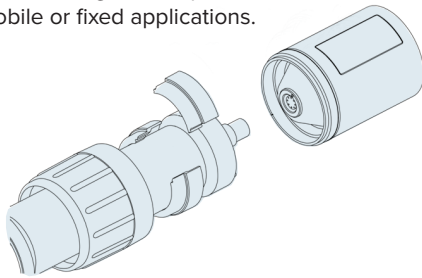


Figure 5:
CSP-COM assembly on CSP probe.

The modules come with only one power on/off button. Four LEDs indicate the battery level (green, orange and red) and the data transfer of the probe.

The wired modules include a RJ45 connector for network link.

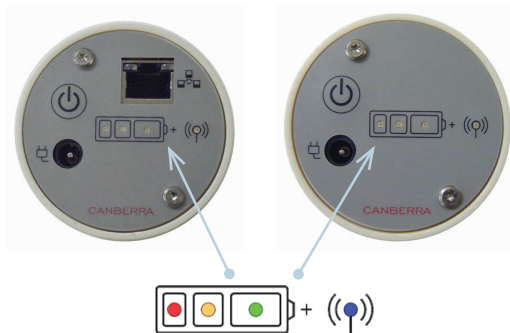


Figure 6:
CSP-COM back panel with LED indicators.

Specifications

ELECTRICAL

- POWER – Rechargeable Li-ion battery – charger included.
- CHARGING TIME – 2 hours.
- BATTERY LIFE – 300 cycles minimum.
- CONSUMPTION – 15 mA maximum.

MECHANICAL

- HOUSING – ABS.
- DIMENSIONS – 100 x 55 mm (4.0 x 2.2 in.) (L x D).
- WEIGHT – 200 g (7.3 oz) without cable.

ENVIRONMENTAL

- OPERATING TEMPERATURE LIMIT – -10 °C to +50 °C (14 °F to 122 °F).
- STORAGE TEMPERATURE – -25 °C to +60 °C (-13 °F to 140 °F).
- RELATIVE HUMIDITY – IP40% to 95% at 35 °C.
- CLEANING – Housing easy to decontaminate.

NORM

- CE – Meets CE requirements.
- CEM – Conforms.
- ETSI EN300-220-1 (Europe) – RF 868 MHz and 915 MHz: Class 3.
- ETSI EN301-439-3 (Europe).
- NF EN61326 (Europe).
- FCC 15-247 (North America).

ORDERING REFERENCES

- CSP-COM Bluetooth – EM82481.
- CSP-COM Wi-Fi – EM83437.
- CSP-COM RS-485 – EM83438.
- CSP-COM Ethernet – EM83442.
- CSP-COM RF 868 – EM83440.
- CSP-COM RF 915 – EM83441.
- CSP-COM RF Base Station-Repeater 868 – EM86288.
- CSP-COM RF Base Station-Repeater 915 – EM86289.
- Supervisor – USB PC Cable – EM78466.
- CSP-DLL – EM82800.
- Colibri – EM83451.

