

## VFM 28000 Radio Module



- Radio modem substitute for cable connections between scales system components or between scales and plant system
- RF modems, broadcast-license free Europe-wide Frequency band: 869 MHz
- Radio range 250 m/2.5 km (with clear line of sight)
- Multi-channel compliant
- Bluetooth radio module (class 1) range 100 m
- Protection class IP65
- Approved for legal-for-trade operation

### Application

The VFM 28000 radio module is used as a substitute for cable connections in situations in which installation of cables would be unnecessarily expensive, if cables could be easily damaged or if cables cannot be used.

Typical applications are:

- Coupling of weighing electronics to a crane crossbeam (replacing a cable drum or a trailing cable installation)
- Connections between mobile plant components, containers free to move to a degree, or operating panels in vehicles
- Connections over long distances between plant components, in particular across open spaces
- Communication between a DISOMAT and a mirror device or a VOP display device or communication with a DISOBOX (with the RF modules only)
- Control of a large display or a printer

Combined with the DISOMAT and DISOBOX series analysis devices, the VFM modems are also certified for the transfer of legal-for-trade data.

As radio frequency modems the VFM devices require no broadcast licenses anywhere in Europe – national legislation must be referred to outside Europe.

The Bluetooth version can be used worldwide.

### Design

A housing with a high protection class forms the basic unit of all VFM modules. This basic unit contains the power supply and the serial interfaces. Without any further modules, this basis unit can be used as a power source for 24 V devices or as an RS232 ⇔ RS422 interface converter.

Additional HF modules will result in RF radio modules with a frequency of 869 MHz and ranges of up to 2.5 km, or class 1 Bluetooth modems with ranges of 100 m.

The Bluetooth modules have an internal antenna whereas the RF modules are supplied with a suitable antenna with a magnetic base (1.5 m cable).

The Bluetooth modules can be used in pairs. However, if e.g. connected to a PC, they can also be connected individually with another Bluetooth partner (e.g. USB-BT).

In many applications the VFM can also provide power to connected 24 VDC devices (large format displays, operating units, weighing electronics).

### Function

In the simplest configuration the VFM modules are used in pairs as a replacement for a serial interface. For serial baud rates of up to 9600 a route can be established without further configuration.

Higher baud rates and parallel routes can be operated, but the devices must be reconfigured. The configuration software is supplied with the DISOMAT documentation software.

We recommend consulting Schenck Process beforehand if dealing with such a situation.

Multi-point connections can also be established, such as the addressing of several analog-digital converters via one master. In these cases also the concept should be discussed in advance.

The ranges given in the technical data apply to open spaces only and only if there is a direct line of sight between the modems. Under more complex operating conditions – such as indoors in halls – we recommend performing measurements before selecting the required equipment.

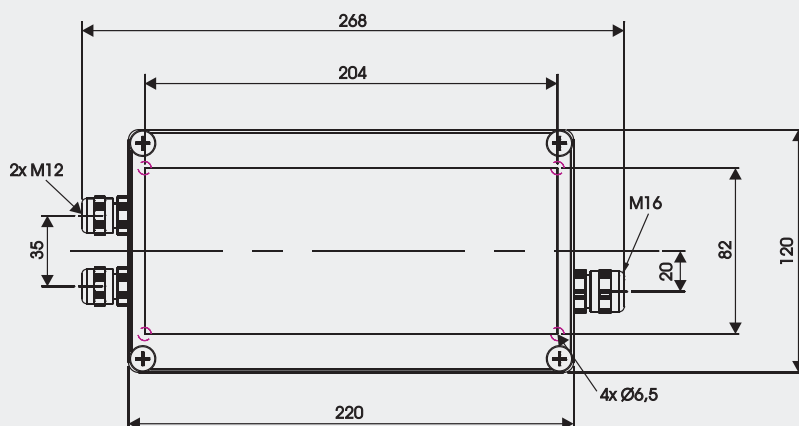
## Technical Data

External dimensions L x W x H [mm]	220 x 120 x 91
Interfaces	1 x RS422-4-wire for communication over longer distances 1 x RS232 Can be operated as an RS232 ⇔ RS422 converter
Supply voltage DC	24 VDC (range: 18 ... 36 VDC); typically 10 W
Max. data rate (HF side)	38,400 Baud (LR design: 19,200 Baud)
Supply voltage AC	85 ... 264 VAC
Protection class	IP65, NEMA 4X
Operating temperature range	-20 °C ... 60 °C

## Order Numbers

Type	Description	Material Number
VFM 28000 Basic unit	Suitable as a 100 ... 240 VAC → 24 VDC, 10 W power supply and as an RS232 ⇔ RS422 inter- face converter	V081931.B01
VFM 28000 BT	Bluetooth radio module class 1; range 100 m	V081932.B01
<b>VFM 28000 RF</b>	<b>Short range radio module, 869 MHz, 50 mW, range 250 m</b>	<b>V081933.B01</b>
VFM 28000 LR	Long range radio module, 869 MHz, 500 mW, range 2.5 km	V081934.B01

## Dimension Diagram with Mounting Holes Indicated



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