



TIMING SOLUTIONS

# Rubidium Series



## RUB VM Distribution module 1:6 10 MHz continuous wave

### Features

- Six built-in 10 MHz signal amplifiers
- Monitors all output signals
- Additional reserve amplifier for fail-safe operation

The VM module amplifies one 10 MHz sinus signal to six individual 10 MHz outputs. In case of a faulty signal output, a seventh amplifier can be switched to one of the six distributing ports.

Das VM-Modul verstärkt ein 10 MHz-Sinus-Signal auf sechs Ausgänge. Sollte ein Ausgang ausfallen, kann ein siebter Verstärker per Relais auf einen der sechs Verteiler-Ports umgeschaltet werden.



RUBIDIUM H1 VM module rear view

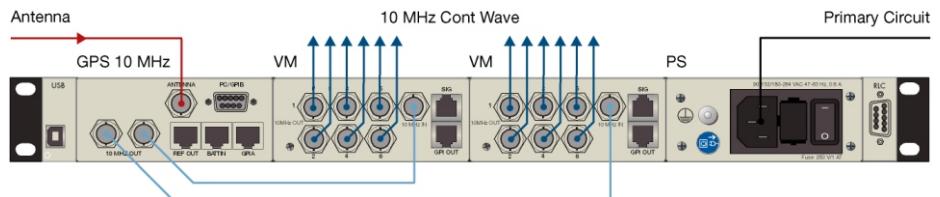
LEDs located on the front of the module indicate the operating status. Built-in GPIOs can be programmed to signal errors or other warnings. The backlit keys on the front of the module can individually be configured with the included software. The setup (configuration) of the module is made using a PC via the USB or Ethernet port (optionally).

LEDs an der Frontseite zeigen den Betriebsstatus. Die Tasten, vier GPIOs und ein Fehlerrelais sind in ihrer Funktion programmierbar. Die Konfiguration des Moduls ist per PC (USB oder optional Ethernet) möglich.

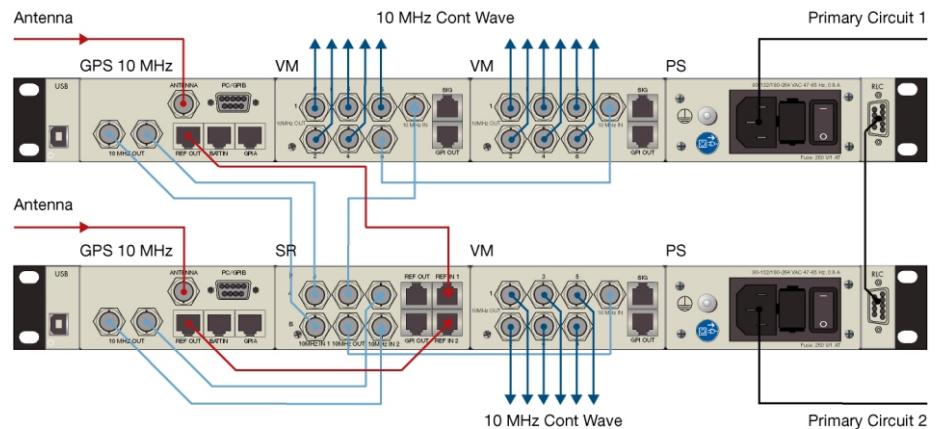


RUB VM in H1 housing





Example of a 10 MHz distribution system, 12 outputs



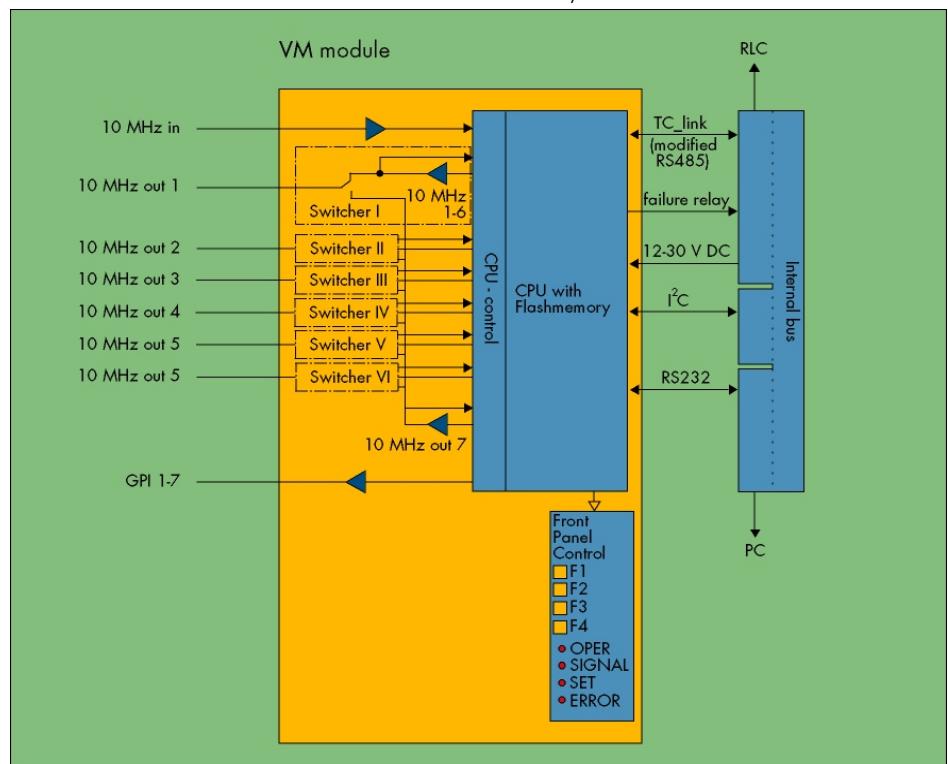
Example of a redundant 10 MHz distribution system, 17 outputs

In order to ensure a fail-safe operation, all signals are analyzed and monitored. In the event of an error, the appropriate output is switched to the reserve amplifier. The changeover is programmable as follows:

- Immediately (automatically)
- At a specified time (automatically)
- Manually (by pushing one of the programmable keys)

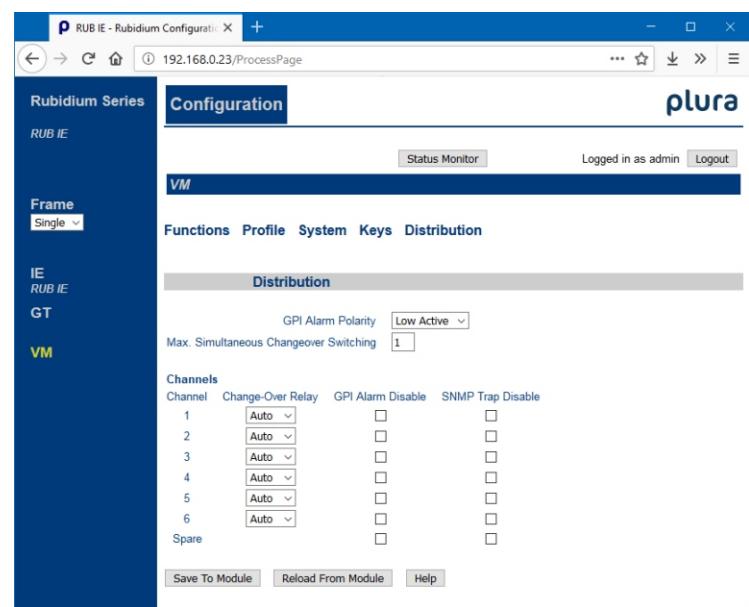
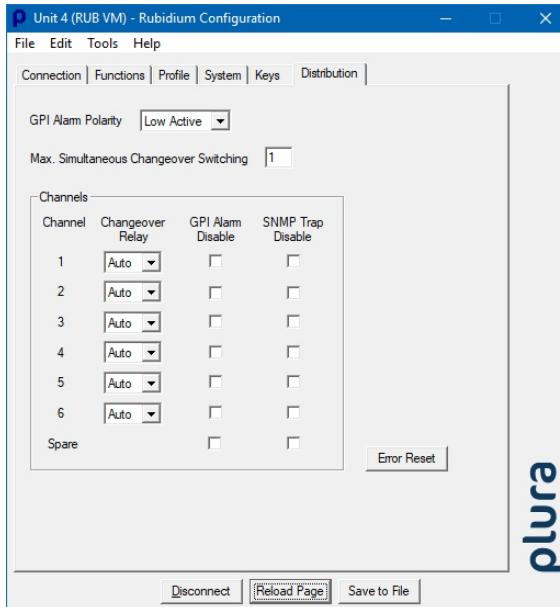
Alle Signale werden überwacht, um einen ausfallsicheren Betrieb zu gewährleisten. Im Fehlerfall wird der entsprechende Ausgang auf den Reserve-Verstärker umgeschaltet. Die Umschaltung ist wie folgt programmierbar:

- Direkt (automatisch)
- Zu einem vorgegebenen Zeitpunkt (automatisch)
- Manuell (mit Hilfe einer der Fronttasten)



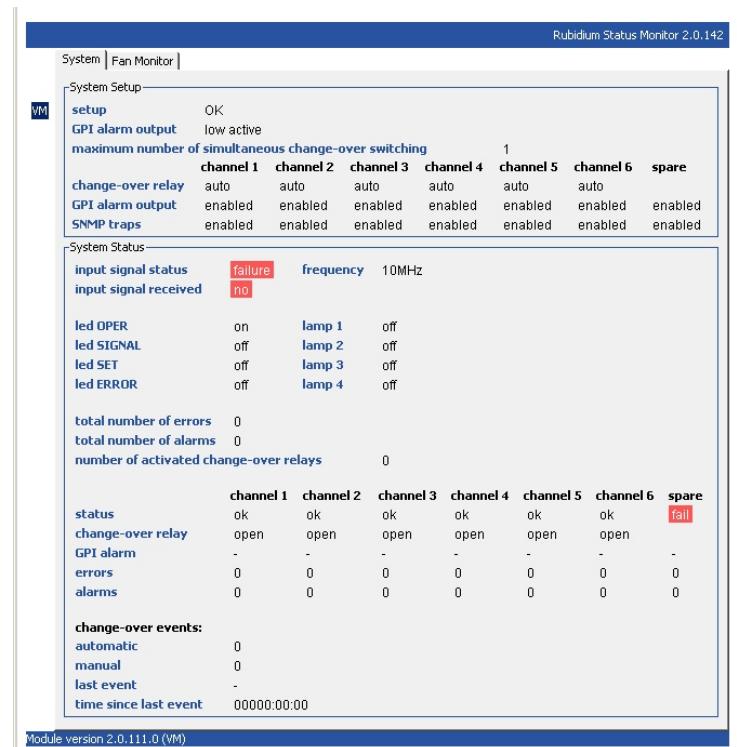
Available functions can be selected by configuration over the housing's USB interface. If a RUB IE Ethernet module is on hand, configuration can also be made via a standard web browser.

Die Konfiguration kann über die USB Schnittstelle des Gehäuses geschehen. Wenn das System über ein Ethernet-Modul IE verfügt, kann ein standard Internet-Browser hierfür verwendet werden.



A status monitor can be accessed at any time. SNMP is available in combination with an IE modul.

Ein Statusmonitor zur Überwachung des Moduls kann jederzeit aufgerufen werden. Per Ethernet ist auch eine SNMP-Überwachung möglich.



## Specifications VM module

### Input

#### **Connector**

BNC (IEC 169-8), 75 Ω

#### **DC range**

± 5 V

#### **Input impedance**

75 Ω

#### **Signal specifications**

Frequency range: 10 MHz ± 5 %

Amplitude range: 0.2 - 2.5 Vpp signal input at 75 Ω

### Output

#### **Connector**

BNC (IEC 169-8), 75 Ω

#### **Output impedance**

75 Ω

#### **Gain**

1 ± 1 %

#### **GP\_1 - GP\_7**

#### **Output specification**

Open collector output of a NPN Darlington transistor.

Max. power dissipation: 200 mW.

**"High" state:** External pull-up needed to a positive power source of less than or equal to 30 VDC, typically 1 kΩ when connected to an external +5 VDC power source

**"Low" state:** Output switched to GND.

Maximum collector current = 200 mA DC, not fused.

Collector-emitter saturation voltage: @100 mA: typ. 0.9 (≤

### Others

#### **Operating voltage**

12 - 30 VDC

#### **Power consumption**

max. 1.5 W (GPI\_1 - GPI\_7 unconnected)

#### **Weight**

0.5 kg approx.

#### **Dimensions Rub H1**

2 circuit board (W x D): 100 x 160 mm/3.94 x 6.30 inch

Rear panel: 103 x 44 mm/4.06 x 1.73 inch

#### **Dimensions Rub H3**

Rear panel: 3RU, 8HP

#### **Environmental characteristics, operating**

Temperature: +5 °C - +40 °C

Relative humidity: 30 % - 85 %, non-condensing

#### **Environmental characteristics, non-operating**

Temperature: -10 °C - +60 °C

Relative humidity: 5 % - 95 %, non-condensing

## Product ordering ID VM modules

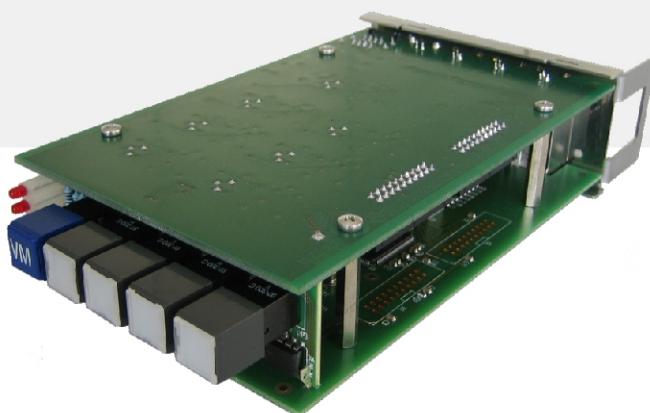
### **RUB1 VM**

Distribution module 1:6 10 MHz continuous wave with output monitoring and a redundant change-over switcher for RUBIDIUM Series 1 (1 RU)

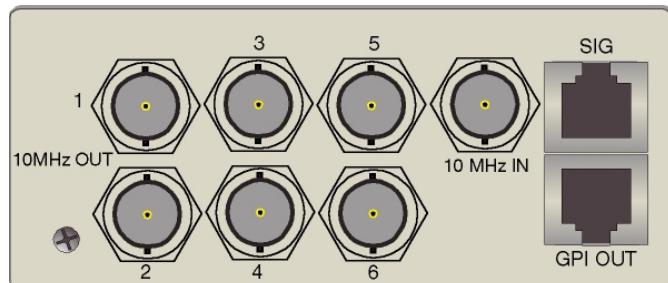
### **RUB3 VM**

Distribution module 1:6 10 MHz continuous wave with output monitoring and a redundant change-over switcher for RUBIDIUM Series 3 (3 RU)

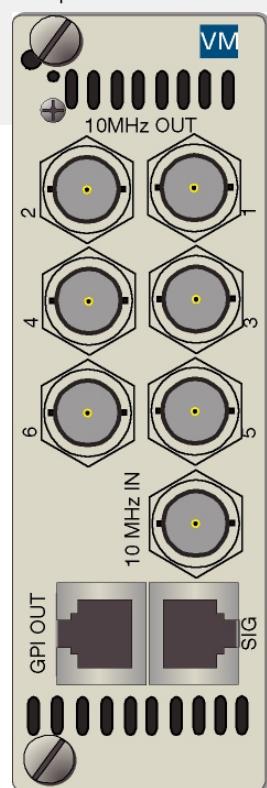
The RUBIDIUM modules must be used in conjunction with a RUBIDIUM housing and a RUBIDIUM power supply, please see our overview leaflet for more information.



RUBIDIUM H1 VM module front view



RUBIDIUM H1 VM rear panel



RUBIDIUM H3 VM rear panel

U.S.A. · Germany

U.A.E. · S. Korea

