

Next Generation
red-y compact:

AA Battery Powered
Touch Interface
Micro-USB Port
Alarm Option



red-y compact 2 series product information

Battery Powered Digital Mass Flow Meters for Gases

Independent digital convenience: Thermal Mass Flow Meters for Gases

The **red-y compact 2 series** mass flow meters are characterized by powerful technology, intelligent functions and innovative design.

This latest generation offers a new level of ease of use: compact design with battery power and touch display for great flexibility.

Touch Interface



The touch display offers intuitive navigation. The many variables that make the unit flexible are easily accessible. Automatic display alignment thanks to position sensor

Independent Operation



The flow meters are powered with a standard AA battery or Micro-USB power supply. Optional 24 Vdc power supply available

Modular Extensions



The instruments can be extended and retrofitted with different modules: battery module, power module and alarm module



High Accuracy & Dynamics



The devices offer high accuracy & a wide dynamic range:

Accuracy up to ±1% of full scale

Turndown ratio up to 1 : 100

(depending on application/measuring range)

Totalizer



In addition to the actual flow, the total consumption is displayed. Ideal for gas consumption measurements

1 Device – Multiple Gases



One measuring device can be used for up to 3 different gases or gas mixtures

Instrument versions <red-y compact 2 series>

Version	Touch Display ¹	Auto display alignment (position sensor)	Choose between multiple home screens	Totalizer	Multigas (up to 3)	Manual valve	Alarm functions	Power supply		
								Micro-USB power supply (DIN62684)	Battery power	24 Vdc supply
compact meter GCM	●	●	●	●	○			●	●	○
compact regulator GCR	●	●	●	●	○	●		●	●	○
compact switch GCS	●	●	●	●	○		●			●
compact all-in GCA	●	●	●	●	○	●	●			●

● Standard

○ Option

¹backlight not available for battery use; backlit only with external power supply (Micro-USB or 24 Vdc)

Password Protection



To avoid unauthorised change of settings, the menu of the new red-y compact can be locked with a password

3-Year Warranty*



High-quality components ensure long and trouble-free operation

*does not apply to calibration, battery, options and accessories



The new red-y compact 2 series – Even more stunning features:

» **Wide Choice of Flow Units:**

Choose between a large number of **standardized** and **normalized flow units** of the **Imperial, US customary** and **SI** measuring systems (with user adjustable reference conditions).

The units are selectable from the integrated menu both for the actual flow and the totalized flow

» **Extended Alarm Functions:**

The red-y compact 2 series provides 3 configurable alarms. The following triggers are available:

Low alarm, high alarm, window alarm and **totalizer alarm**

The alarms can be configured with different parameters:

Normally open, normally closed, hysteresis, auto/manual/remote reset, delay and **alarm duration**

» **Device Information & Notifications**

Display of complete device information including all configuration settings. Alerts and notifications show up on the home screen

» **Upgrade Device Features**

New device features will be available and can be updated through the built-in USB interface. Stay informed on latest releases at twitter.com/vogtlinmassflow or www.voegtlin.com



VA-Meters vs. Massflow Meters

Many applications require a **higher accuracy** together with **pressure and temperature compensation** which cannot be realized with conventional variable area flow meters.

VA-meters are extremely sensitive to pressure and temperature changes. 1 bar change in pressure can generate an error of 50% in your measurement.

Our mass flow meters generate repeatability!

The **electronic alarm module offers many options** over a single VA-meter alarm.

Autonomy, precision and comfort for your application

Through the application of **high-precision MEMS technology** (CMOS sensors), the thermal flow meters and controllers from Vögtlin Instruments GmbH set new standards in terms of response characteristics and measuring accuracy, and are characterized by maximum convenience:

- » **The devices are very compact, can be installed in any position, and are immediately ready for operation**
- » **The built-in touch display with an intuitive navigation offers various settings**
- » **The devices measure real mass flow, independent of changes in pressure and temperature. This provides high accuracy and repeatability to the measuring results**
- » **In addition to the actual value, the total consumption is displayed. This creates transparency in supply systems**
- » **The autonomous operation with a standard AA battery makes the compact a high-precision alternative to variable area flow meters**
- » **High quality: All flow meters are produced and calibrated at our European production center in Germany**

Our specialists will be happy to advise: +41 61 756 63 00 or www.voegtlin.com

Alarm option <red-y compact 2 series>

The models **GCS** (red-y compact 2 switch) and **GCA** (red-y compact 2 all-in) provide **3 configurable alarm relays**.

The following triggers are available: High alarm, low alarm, window alarm and totalizer alarm.

The alarm module can be retrofitted on existing *red-y compact 2 meters & regulators*.

Features:

- » 3 alarm contacts
(relays that can switch up to 1 amp, 30 Vdc)
- » 2 optical isolated input channels
(to optionally reset an alarm remotely)
- » Every alarm contact separately settable as high, low, window or totalizer alarm
- » Hysteresis, delay and alarm duration time all customer configurable
- » Built-in 8...30 Vdc power supply, polyfuse protected
- » 2 meter fly lead cable included
- » All variables adjustable locally through touch screen

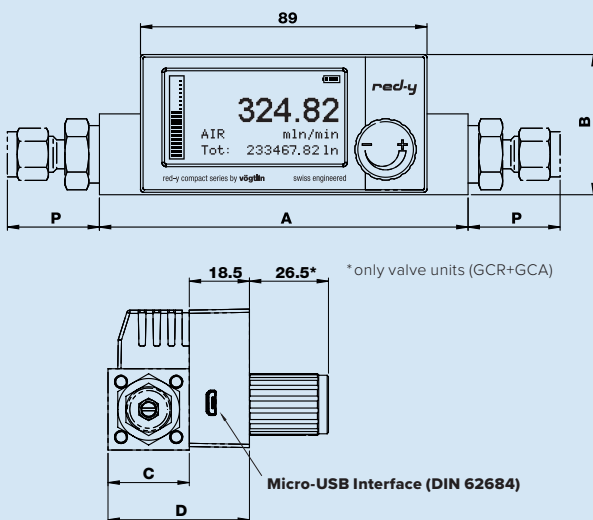
Pin assignments

	Pin	Color	Assignment
Power	1	red	PWR+
	2	black	PWR-
Input 2	3	white	IN2
Input 1	4	brown	IN1
Input GND	5	green	IN.GND
Alarm 3	6	yellow	OUT3.NO
	7	grey	OUT3.NC
	8	pink	OUT3.COM
Alarm 2	9	blue	OUT2.A
	10	violet	OUT2.B
Alarm 1	11	grey-pink	OUT1.A
	12	red-blue	OUT1.B

Functions

Logic functions	High alarm, low alarm, window alarm, totalizer alarm
Reset functions	Auto, manual, external input 1/input 2
Power input	
Voltage supply range	8...30 Vdc (power supply hereafter referred to as the 24 Vdc power supply)
Max. current	300 mA
Protection input	Polyfuse (trip current > 500 mA) and reverse polarity protected
Switch ratings switch 1 + 2 (SPST hard contact) / switch 3 (SPDT contact)	
Maximum voltage	30 Vdc
Relais lifetime	> 5 million cycles
Maximum current	Switch 1 + 2 (SPST hard contact): 0.5 A / Switch 3 (SPDT contact): 1 A
Inputs 1 + 2 (opto-couplers)	
Voltage range (polarity sensitive)	5...30 Vdc (@ 5 mA max.)
Min. recommended pulse width	100 msec (sample interval 20 msec)

Dimensions <red-y compact 2 series>



Type / Body	Length (mm)				Length of fitting
	A	B	C	D	
GCM G $\frac{1}{4}$ " GCR G $\frac{1}{4}$ " GCS G $\frac{1}{4}$ " GCA G $\frac{1}{4}$ "	114	44	25	44	We offer a range of different inlet/outlet fittings.
GCM G $\frac{1}{2}$ " GCS G $\frac{1}{2}$ "	160	54	35	54	
GCR G $\frac{1}{2}$ " GCA G $\frac{1}{2}$ "	207	54	35	54	

Find more detailed drawings in the *red-y compact 2 series* manual available on www.voegtlin.com/downloads

Technical data <red-y compact 2 series>

Instrument types



compact meter GCM

Mass Flow Meter

compact switch GCS

Mass Flow Meter with Alarm Functions



compact regulator GCR

Mass Flow Meter with manual Valve

compact all-in GCA

Mass Flow Meter with Alarm Functions & Valve



compact G $\frac{1}{2}$ " versions

For 1/2" size with manual valve, the valve is flange mounted

Measuring ranges

(full scale freely selectable)	Type	Measuring range (air)		Process connection
	GCX-A	from 0 ... 50 mln/min	to 0 ... 600 mln/min	G $\frac{1}{4}$ "
	GCX-B	from 0 ... 600 mln/min	to 0 ... 6000 mln/min	G $\frac{1}{4}$ "
	GCX-C	from 0 ... 6 lln/min	to 0 ... 60 lln/min	G $\frac{1}{4}$ "
	GCX-D	from 0 ... 60 lln/min	to 0 ... 450 lln/min	G $\frac{1}{2}$ "

Performance data

Media (real gas calibration)	Air, O $_2$ *, N $_2$ *, He, Ar, CO $_2$, H $_2$, CH $_4$, C $_3$ H $_8$ (other gases and gas mixtures on request) *O $_2$ & N $_2$ are calibrated with air
Accuracy (air & equivalents)	Eco: \pm 2.0% of full scale; ranges > 200 lln/min \pm 3.0% of full scale Special: \pm 1.0% of full scale up to 50 lln/min
Turndown ratio	Eco: 1 : 50 Special: 1 : 100
Response time	Max. 300 msec (depending on filter settings)
Flow update by sensor	40 msec (battery mode 500 msec)
Display update	240 msec (battery mode 500 msec)
Repeatability	\pm 0.5% of full scale
Longterm stability	< 1% of measured value / year
Power supply Meter GCM & Regulator GCR	Standard AA battery (lifetime in months depending on operation) or Micro-USB power supply (DIN 62684) Option: External power +8...30 Vdc (power consumption max. 120mA)
Power supply Switch GCS & All-in GCA	External power +8...30 Vdc (power consumption max. 300mA) or Micro-USB power supply (DIN 62684)
Operation pressure	0.2 – 11 bar a
Temperature (environment/gas)	0 – 50°C
Materials	Anodized aluminium, optional stainless steel electropolished
Seals	FKM, optional EPDM (FDA)
Pressure sensitivity	< 0.2% / bar of reading (typical N $_2$)
Temperature sensitivity	< 0.025% FS measuring range type / °C
Warm-up time	< 1 sec. for full accuracy

Integration

Display	Touch display (128x64 px) with automatic position adjustment (position sensor) Backlighting only with external power supply (Micro-USB or 24 Vdc)
Process connection	G $\frac{1}{4}$ " (BSPP* female) up to 60 lln/min, G $\frac{1}{2}$ " (BSPP* female) up to 450 lln/min *British Standard Pipe Parallel
Inlet section	None required
Mounting orientation	Any position, consult manufacturer above 5 bar or vertical mounting
Connection cable	For external power supply or alarm module: 2 m with fly leads

Safety

Test pressure	16 bar a
Leak rate	< 1 x 10 $^{-6}$ mbar l/s He
Ingress protection class	IP-50
EMC	EN 61326-1

Options



Panel Mounting Kit



Vacuum Fittings



Various Inlet and Outlet Fittings

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