gas flow technology by **vögtlin**

Next Generation
red-y compact:
....
**AA Battery Powered
Touch Interface
Micro-USB Port
Alarm Option**

CO2
sccm
A1
A2
A3
371.57

A1 A2 A3
324.82
AIR   mln/min
Tot: 233467.82 ln

823.42
CH4   scfh
Tot: 756893.11 scf

red-y compact 2 series product information

Battery Powered Digital Mass Flow Meters for Gases

vögtlin
instruments

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

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

Instrument versions ‹red-y compact 2 series›

Version	Touch Display¹	Auto display alignment (position sensor)	Choose between multiple home screens	Totalizer	Multigas (up to 3)	Manual valve	Alarm functions	Mirco-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; backlighted only with external power supply (Micro-USB or 24 Vdc)

ISO 9001

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
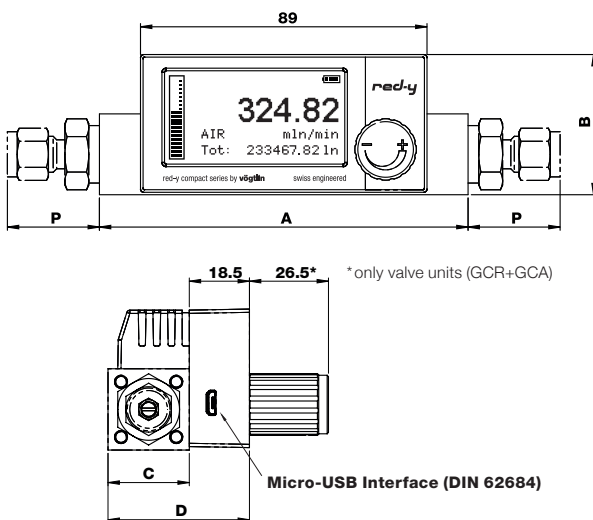- » All variables adjustable locally through touch screen

Pin assignements

		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 refered 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**	**P**
GCM G¼" **GCR G¼"** **GCS G¼"** **GCA G¼"**	114	44	25	44	We offer a range of different inlet/outlet fittings.
GCM G½" **GCS G½"**	160	54	35	54	
GCR G½" **GCA G½"**	207	54	35	54	

*only valve units (GCR+GCA)

Micro-USB Interface (DIN 62684)

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 G½" 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
	GC**X**-A	from 0 ... 50 mln/min	to 0 ... 600 mln/min	G¼"
	GC**X**-B	from 0 ... 600 mln/min	to 0 ... 6000 mln/min	G¼"
	GC**X**-C	from 0 ... 6 ln/min	to 0 ... 60 ln/min	G¼"
	GC**X**-D	from 0 ... 60 ln/min	to 0 ... 450 ln/min	G½"

Performance data

Media (real gas calibration)	Air, O2*, N2*, He, Ar, CO2, H2, CH4, C3H8 (other gases and gas mixtures on request) *O2 & N2 are calibrated with air
Accuracy (air & equivalents)	Eco: ± 2.0% of full scale; ranges > 200 ln/min ± 3.0% of full scale Special: ± 1.0% of full scale up to 50 ln/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	± 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 N2)
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) Backlighted only with external power supply (Micro-USB or 24 Vdc)
Process connection	G¼" (BSPP* female) up to 60 ln/min, G½" (BSPP* female) up to 450 ln/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
Environmental protection	IP-50
EMC	EN 61326-1

Options

Panel Mounting Kit

Vacuum Fittings

Various Inlet and Outlet Fittings

TEMPCO sa   www.tempco.be   tempco@tempco.eu   tel: +32 4 2649458