Description

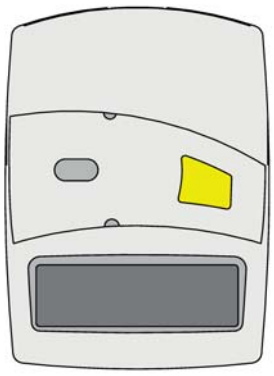
GE552 multi-jet volumetric energy meter is characterized by constant precision and remarkable working safety; high precision in measuring allows the use a wide range of applications. The meter is available in 3/4" (nominal flow 0,6 o 1,5 m³/h) and 1" (nominal flow 2,5 m³/h) versions; it is equipped with double register and so it can measure both heating thermal and conditioning energy. The temperature range of the meter goes from 1 to 130 °C (volumetric part: 10-90 °C) and for this reason it is the ideal solution to measure energy consumption in residential buildings with heating and conditioning centralized systems and zone distribution.

Versions and product codes

Product code	Connections	Assembling distance between the axis [mm]	Nominal flow [m³/h]	Min. flow [l/h]	Max. flow [l/h]
GE552Y158	3/4"	110	0,6 m³/h	24	1,2
GE552Y159	3/4"	110	1,5 m³/h	60	3,0
GE552Y160	1"	130	2,5 m³/h	100	5,0

Table 1: Versions and product codes

Information displaying



The meter is equipped with a multi-function display that allows an easy reading, thanks to a simple menu and immediately comprehensible symbols. 3 reading loops containing the most important device and consumption data can be called back by means of a single button. Consumption values of the previous 18 months too can be called back on the display.

State symbols

Symbols in table 2 indicate the functioning state of the device univocally and only appear in the main menu (energy). The temporary indication "Attention" (triangle symbol) can be activated by particular conditions of the system and it does not necessarily indicate an instrument failure.

Symbol	State	Action
	Present flow	-
	Attention!	Attention! Check the system/the device
	Data transmission	-
	Emergency	Replace device

Table 2: State symbols

If the symbol "Attention" (triangle) remains, it is necessary to contact the supplier of the device.

Error codes

Failures are indicated by a numerical code, the meaning of which is in table 3. In case of more than one failure, a code that is the sum of corresponding codes is displayed (ex. error 1005 = error 1000 + error 5).

Product code	Error	Action
1	Hardware error	Replace the instrument
2	Delivery sensor interruption	Replace the instrument
3	Return sensor interruption	Replace the instrument
4	Hardware error	Replace the instrument
5	Delivery sensor short circuit	Replace the instrument
6	Return sensor short circuit	Replace the instrument
100	Emergency functioning	Replace the instrument
1000	Exceeded battery life	Replace the instrument
2000	Exceeded adjustment time	Replace the instrument
8001-5	Memory error	Replace the instrument

Table 3: Error codes

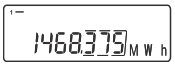
Consumption data and other information reading

Information reading is on the display in the frontal part of the device; by pushing the yellow button, it is possible to scroll all information by the means of a simple menu. Table 4 shows navigation modalities of the menu; the loop can be changed in any point of the menu.

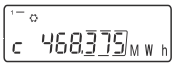
Symbol	Action
S	Push the button shortly in order to scroll down the menu (S). The passage from the last point of the menu to the first one is automatic (cyclic display).
L	Push the button (L) for about 2 seconds and wait until the door symbol appears (right upper part of the display); release the button. The menu is updated just later or a passage to submenu is possible.
H	Keep the button (H) pushed until the loop change or the submenu passage.

Table 4: Menu navigation

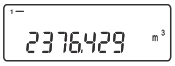
Loop 1



Heating energy (main indication)



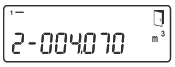
Conditioning energy



Volume

External meter volume 1

Meter impulsiveness 1



External meter volume 2

Meter impulsiveness 2

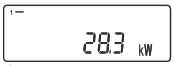
Display test

Delivery temperature

Return temperature

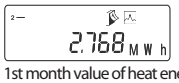
Temperature difference

Flow



Current output

S



1st month value of heat energy

Loop 2

Day heating energy

In any point of the menu levels can be changed.

Date

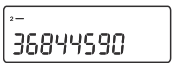
External meter day value 1

External meter day value 2

Monthly consumption

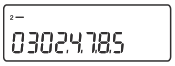
Current month consumption

1st energy consumption date



Series number

2nd energy consumption date

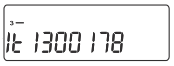


User number

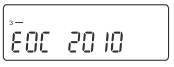
S

Loop 3

Sensor type and installation point



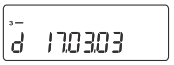
Model number



First check validity (only for some countries)

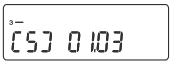
M-Bus address

Hour



Date

Error state



Software version

S

Values can differ in number and sequence more or less from the ones here indicated, depending on the meter model.

Impulse inlets

Impulse value of the two inlets can be called back on the display (see display reading - loop 1). Please see table 5 to connect to the terminal box.

Feature	Value
Max. pressure	30 Vdc / 20 mA
E/S 1, 2	Open Drain, n FET channel
Cable diameter	4,9 mm (6 conductor)
Buttons report	1:1 (out); 1:5 (in)
Cable length	1,5 m
Inlet frequency	max. 1 Hz

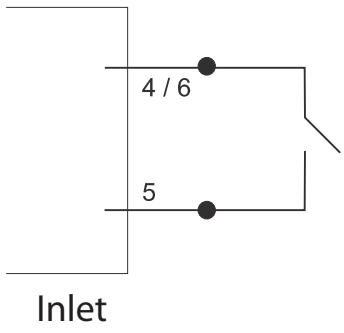
Table 5: Inlets/outlets technical data

M-Bus interface

M-Bus integrated interface complies with UNI EN 1434-3 standard and transmits information at a speed of 2400 baud. In addition to heating and conditioning energy, the interface can transmit data detected from the two additional inlets. Please see table 5 to connect to the terminal box.

Colour	Terminal	Connection
Yellow	NC	Free
Pink	M-Bus 1	Conductor 1 of M-bus cable
Grey	M-Bus 2	Conductor 2 of M-bus cable
Green	E/S 1	Inlet 1
White	GND	Common for inlets 1 and 2
Brown	E/S 2	Inlet 2

Table 6: Terminal box connection



Installation

To install the measurement section of the flow, replace the plastic spacer pipe of the meter. It is not necessary to use adaptors or other connecting components. Return temperature sensor is integrated in the measurement section of the flow. It is recommended to install the delivery temperature sensor according to indications in the data sheet 0283.

Max. water temperature in the volumetric part cannot exceed 90 °C. While assembling pay attention to hot water leakage for burns risk.

Standards in force and particularly EN 1434 parts 1 and 6 must be respected. Since GE552 meter integrates an M-Bus communication interface and so it can be part of a network for data transmission, also standards concerning electronic devices installation must be respected.

The installation must be carried out by qualified staff.
It is necessary to read this data sheet carefully up to the end before the device installation.

Measurement section of the flow

- The measurement section of the flow must be necessarily installed on the return unit of GE555 module or of GE556 satellite.
- Interception valves are upstream and downstream the measurement section of the flow.
- Pay attention to the correct flow direction, indicated by an arrow on the measurement section of the flow. The use of flow inverters is forbidden.
- Installation in horizontal or ascending/descending flow pipes.
- Do not install at the top of the pipe in order to avoid the formation of air pockets.
- Consider heat meter size.
- Keep a distance of at least 1 m between GE552 meter and all possible sources of electromagnetic interference such as switches, motors or pumps.
- Keep a distance of at least 20 cm form electrical cables.
- Keep a free space of at least 3 cm around the instrument.

Temperature sensors installation

- An interception valve with a pit for the delivery temperature sensor installation is on delivery unit of GE555 modules and of GE556 satellites.
- Do not remove the return temperature sensor assembled in the measurement section of the flow.
- The cables of temperature sensors are (red = delivery, blue = return).
- Cables cannot be bended, lengthened or shortened.
- The seal in the sensors installation point on the measurement capsule cannot be removed.
- Install the delivery temperature sensor according to the indications in the data sheet 0283.
- Protect the temperature sensor from interventions by non-authorized staff by means of the set of seals included in the supply.

Functioning

- Open interception valves slowly and check possible fluid leaks.
- When the system is functioning check on display if flow indication is not zero and indicated temperatures correspond to real temperatures.
- Wait for temperature updating on the display (1-2 seconds).
- Keep the measurement section of the flow safe with the seal material available.

Maintenance

This instrument does not need any maintenance: it can be exclusively fixed by the producer.

Use exclusively a wet cloth to clean surfaces; the use of aggressive or abrasive cleaning products is forbidden.

Normative reference

- UNI EN 1434 Heat meters
- UNI 10200 Heating costs sharing

Normative reference Size

- Decreto Legislativo 2nd February 2007, n. 22 Implementation of directive 2004/22/ CE concerning measurement instruments

Compliance with MID Directive

GE552 meter complies with Directive 2004/22/CE concerning measurement instruments (Directive MID - Measurement Instrument Directive), acknowledged in Italy with Decreto Legislativo 2nd February 2007, n. 22 (Gazzetta Ufficiale n. 64 of 17th March 2007). DE-007-MI004-PTB008 compliance certification has been issued by the metrology institute PTB (Physikalisch-Technische Bundesanstalt).


Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

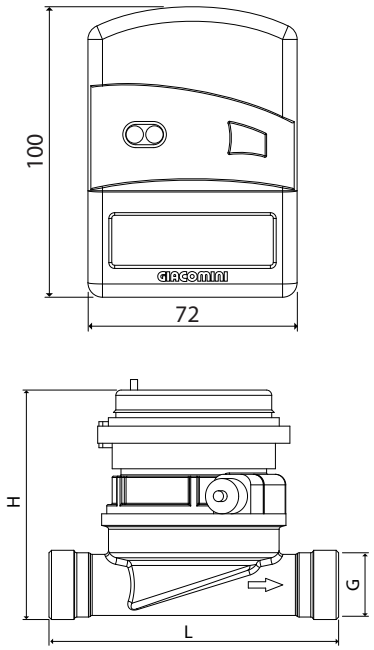
EG-Baumusterprüfbescheinigung
EC type-examination certificate

Technical data

Version	GE552Y158	GE552Y159	GE552Y160
Meter temperature area	1 – 130 °C		
Temperature area (volumetric part)	10 – 90 °C		
Temperature difference area (*)	3 – 100 K		
Sensors type	PT500		
Sensors detection area	0 – 105 (130) °C		
Sensors diameter	5 mm (according to UNI EN 1434)		
Sensors cable length	1,5 m		
Nominal flow qp [m^3/h]	0,6	1,5	2,5
Max. flow qs [m^3/h]	1,2	3,0	5,0
Min. flow qi [l/h]	24	60	100
Horizontal initial flow [l/h]	Approximately 4	Approximately 4	Approximately 6
Max. working pressure PS/PN	16 bar		
Nominal flow loss of pressure (qp)	< 0,25 bar		
Displaying	8 character LCD display		
Supply	3 V Lithium battery		
Battery life	> 6 years		
Protection degree	IP 54		
Room temperature area	5 – 55 °C		
Weight	Approximately 680 g		
Mechanic/electromagnetic class	M1 / E1		
Precision class	3		
(*) Values for symmetrical installation of temperature sensors			

Table 6: Technical data

Dimensions



Product code	L [mm]	H [mm]	G
GE552Y158	110	87	3/4"
GE552Y159	110	87	3/4"
GE552Y160	130	95	1"

Additional information

For additional information please check the Giacomini website at the following address: www.giacomini.com

☎ +39 0322 923 372
🖷 +39 0322 923 255
✉ consulenza.prodotti@giacomini.com

Giacomini S.p.A. Via per Alzo 39, I-28017 San Maurizio d'Opaglio (NO) Italy