Programmable Intelligent 4-20mA Current Generator Simulator

Model No.: BRT 420G-HM3

BRT 420G-HM3 4-20mA Current source generator is a low error, high accuracy stable current signal calibration meter, it designed by following industrial standards. Inside the signal generator, there are Large power MOS tube, high precision power chips, high speed CPU IC, precision AD chips, current loop circuits, all these make that signal generator much more stable and accurately.

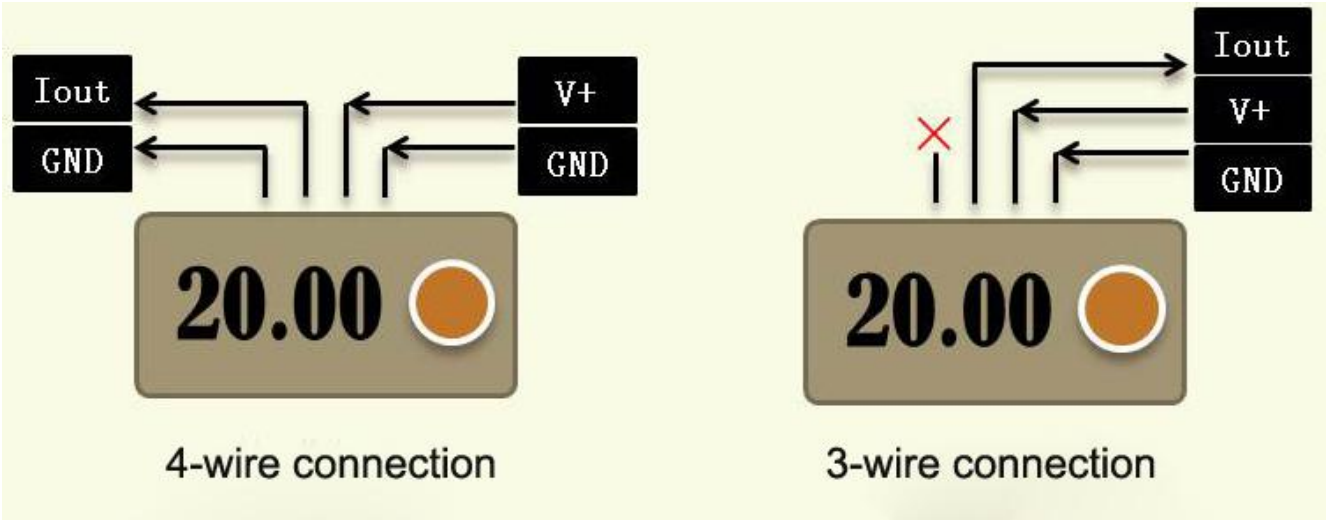
Features & Benefits

- 0.01mA error, high linearity output.
- Using long life span encoder with stepless knob, can rotate and press it.
- Have two type of adjusting mode: rough adjustment and fine adjustment.
- Fine adjustment can be 0.01mA/pulse, rough adjustment can be 5mA/pulse.
- Programmable output, output range can be set into 0-20mA, 4-20mA, 0-22mA
- LED display is settable among current signal value display, 0-100.0 percentage display, etc.
- Min. Changing step can be 0.01mA (the last digit plus or minus 1)
- 4 digits 0.4 inch clear LED display, standard panel-mounted package.
- 4 Pin pluggable wiring terminal blocks, easy to do wire connection.
- Output has short-circuit protection functions.
- Have polarity reverse connection protection circuit in power supply terminals.
- Digital encoder used, long durability, strong anti-interference capability.

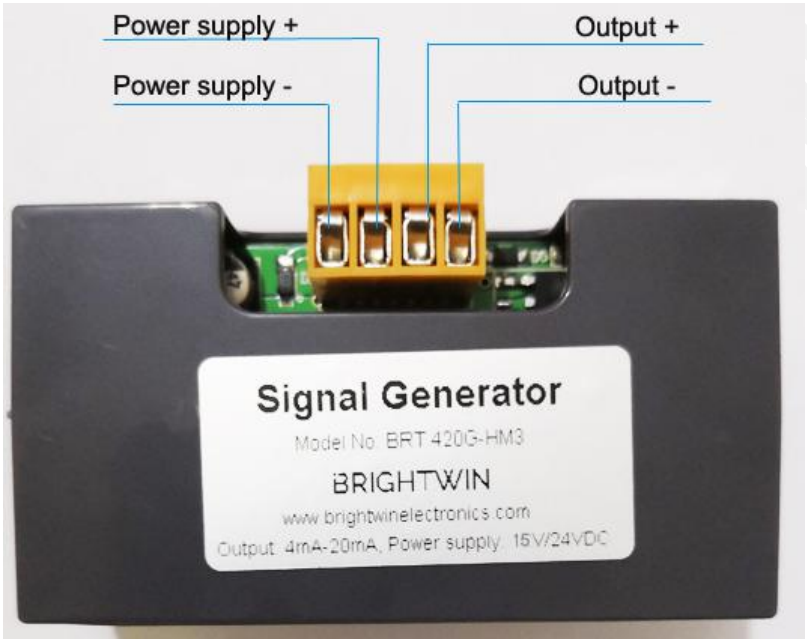
Technical Parameters

Terms	Typical Value
Output current	4-20mA, 0-20mA, 0 - 22mA
Operating power supply	15-30VDC
Sampling resistance	10Ω to 500Ω
Output accuracy	0.01mA
Adjusting accuracy	0.01mA
Rotating one turn pulse no count	20 pulses
LED display	current signal value display, 0-100.0 percentage display, 0-50Hz display, programmable.
Output adjustment	Fine adjustment or rough adjustment (default), programmable.
Front view size	79.5x42mm
Back side view size	72.5x39.5mm
Panel cut-out size	77x40mm
Operating temperature range	-20℃ to +60℃
Storage temperature	-20℃ to +80℃
Humidity	85% R.H. Non condensation

Referential Application Circuits



Terminal Definition



System Operation Instruction

1. Knob function definition

[Confirm/OK] : Press the knob

[+/Add] : Rotate the knob in clockwise direction

[-/Subtract] : Rotate the knob in counter-clockwise direction

Password + - - + : Rotate the knob in clockwise direction once, then rotate the knob in counter-clockwise direction twice, next rotate the knob in clockwise direction.

2. **Save Parameters Setting:** In normally status, short press the knob, it can save the output value setting, then release the knob, LED screen displays "...", it indicates save it successfully, and user can use it directly next time. In signal calibration process, the parameters will not be saved, if user has not do PRESS knob action.

3. Parameters setting:

3.1 In normally operating status, long press the knob for 2 seconds to make the signal generator enter into parameters setting status, the LED screen display F001 (Referential code: 001).

3.2 Rotate the knob, user can change referential code from F001 to F002 and next referential code. (When entering into F002 referential code, please enter password: "**+ - - +**" rotate the knob to enter that password, refer to knob function definition above.)

3.3 When the referential code (e.g.: F001, F002...) is displayed in LED screen, press the knob to enter into parameters changing status, then rotate the knob to change the parameter value to the value you need (refer to table 1.1).

3.4 Press the knob to save the parameters which have been set and exit current referential code setting status. Then the signal generator will display next referential code (e.g.: F003). If user has not entered the password "**+--+**" when LED screen displays F002, the signal generator will be returned into normally operating status after setting and changing the parameters of referential code F001.

3.5 Referential code F004, F005 setting methods are the same to that above (refer to table 1.1).

3.6 Rotate the knob till the LED screen displays FEnd, then press the knob to complete the parameters setting and return to normally operating status.

3.7 In parameters setting procedures, if there is no any actions taken, the signal generator will exit parameters setting status and return to normally operating status.

Referential Code Definition (Table 1.1)

Referential code	Parameters Setting	Value Description	Default factory setting value
F001	Fine or rough adjustment	0: Fine adjustment 1: Rough adjustment	0
F002	Output range	0: 0-20mA 1: 4-20mA 2: 0-22mA	0
F003	Display mode	0: current signal display 1: 0-100.0 percentage display 2: 0-50Hz display	0
F004	Add or subtract value in rough adjustment per pulse	1 to 50: the output value changing step for each pulse. No decimal points. Rotating the knob one turn (360 degree) equals 20 pulses. Can be ten times 10 x (1 to 50).	1
F005	Add or subtract value in fine adjustment per pulse	1 to 50: the output value changing step for each pulse. No decimal points. Rotating the knob one turn (360 degree) equals 20 pulses.	1
F006	Output calibration value	-999 to +999, 20mA ±4mA, Do not change that value if it must be changed, that function is only for internal reference.	

* When entering into F002 parameters setting status, user must rotate the knob to enter password: **+ - - +**

Table 1.1

Notes

1.Please disconnect the power supply firstly, then connect the wires.

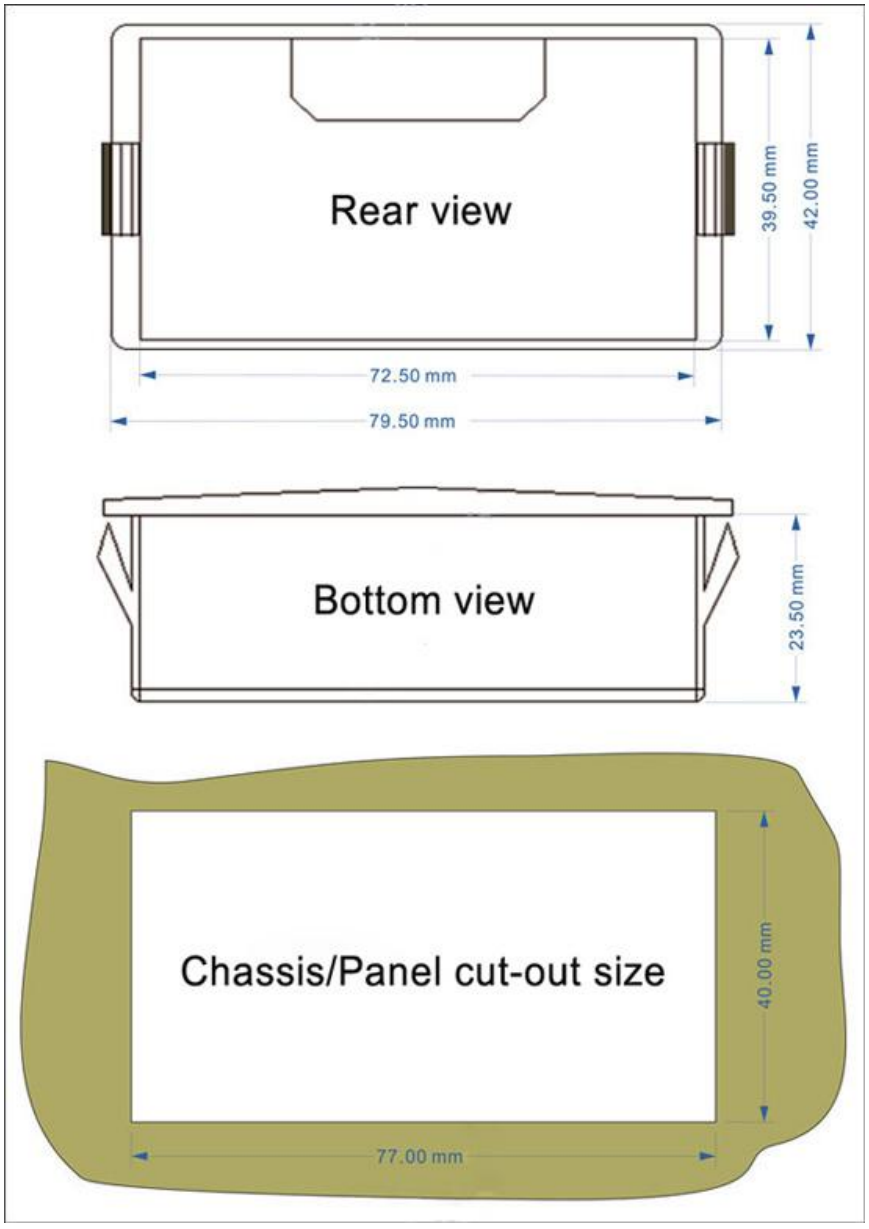
2.Please use it by following the rated parameters in the user manual, otherwise it may cause permanent damages.

3.Rotate the knob in one turn (360 degree): 20 pulses.

4.Fine adjustment from 0mA to 20mA: max. 100 turns.

5.Rough adjustment from 0mA to 20mA: about1/4 turns.

Dimension & Cut-out Size



*Specification is subject to change without notice. For more information, please visit:
https://www.brightwinelectronics.com