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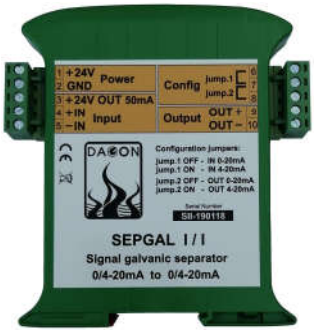
SEPGAL I/I

Galvanic separator of
analog current signal
0/4-20mA at 0/4-20mA
in a housing for a DIN rail



1. Main description of SEPGAL I/I

The SEPGAL I/I separator is used to provide galvanic isolation between two circuits of standard analogue current type 0-20mA or 4-20mA signals.

The analog input (terminals 4 + IN and 5 -IN) should be provided with a 0 / 4-20mA current signal generated by any other electrical / electronic device. You can also connect a 2-wire passive transducer of any physical size (eg temperature, pressure) working in the 4-20mA standard to the analog input.

The methods of connecting the SEPGAL I/I analog input are shown on diagram.

In the case of connecting a 2-wire passive transmitter, the additional + 24V power supply can be used - terminal No. 3, which is also galvanically isolated from the supply terminals No. 1 and 2. Thanks to this solution, there is no need for an additional power supply in the loop between the transmitter and the analog current input .

It should be remembered that the voltage at the auxiliary power output is not stabilized and its value may be within + 21V ... + 25V, which however does not affect the correct operation of the passive converter stabilizing the current in the loop.

The additional power supply output also has a current limit of up to 50mA, which provides protection against short-circuiting. Therefore, it should not be used to power other devices than a passive transducer, which always consumes less than or equal to 20mA - 4-20mA loop current.

Short-circuit protection is also implemented at the analog input and output, providing effective device protection against damage in the event of incorrect connection of external signals, e.g. supplying 24V voltage to the input or analog output of the separator.

ATTENTION:

On signal lines 0 / 4-20mA it is recommended to use surge arresters that provide additional surge protection for devices. DAGON has in its offer an OP 24V surge arrester, which can be used for SEPGAL I/I separator over-voltage protection.

2. SEPGAL I/I separator configuration.

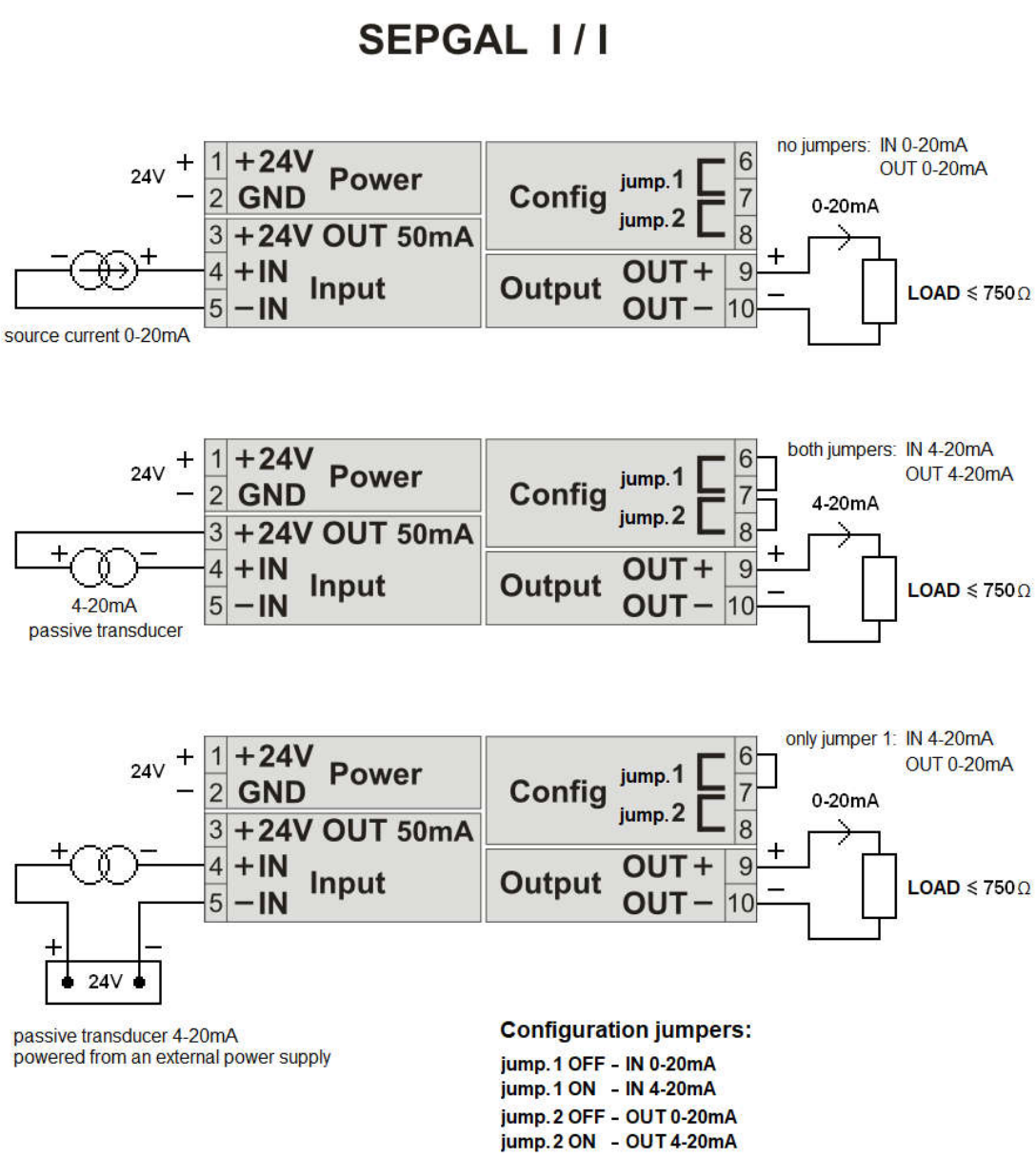
The separator can work with an input signal of 0-20mA or 4-20mA converting it to an output signal of 0-20mA or 4-20mA. Thus, there are 4 operating modes available, which are selected using two jumpers on terminals 6,7,8.

Configuration of the IN input using the jumpers jump.1:
- jump.1 OFF (no jumper in 1) - 0-20mA input signal
- jump.1 ON (jumper on 1) - 4-20mA input signal

Configuration of the OUT output using the jumpers jump.2:
- jump.2 OFF (no jumper in 2) - 0-20mA output signal
- jump.2 ON (jumper on 2) - output signal 4-20mA

Jumpers should be made with a short section of the electric wire.
No voltage or current signals should be connected to the jumper terminals.

3. Connection diagram of SEPGAL I/I separator.



Configuration jumpers:

jump. 1 OFF - IN 0-20mA
jump. 1 ON - IN 4-20mA
jump. 2 OFF - OUT 0-20mA
jump. 2 ON - OUT 4-20mA

4. Conditions for the correct and safe use of SEPGAL I/I separator.

- observe the power supply conditions of the device in accordance with technical data
- all connecting cables must be protected against mechanical and thermal damage
- all assembly operations and connection of wires to the terminals they can be made only when the power supply is disconnected
- protect the device against contact with water and other liquids, absolutely do not turn on the device in high humidity conditions

5. Technical data SEPGAL I/I.

Power supply (terminals 1 and 2):	
- power supply voltage:	**22V...28V DC**
- power consumption:	**≤ 40mA without load outputs**
Additional power output (terminals 3 and 5):	
- supply voltage - unstabilized:	**24V...25V DC without load**
	≥ 21V with load of 20mA
- current limit:	**50mA - protection against short circuit to ground**
Current input (terminals 4 and 5):	
- voltage drop at the input:	**0...6V for Iin = 0...20mA**
- corresponds to the input resistance:	**300Ω but it is not a linear relationship**
- current limit:	**30mA – protection against to high voltage - max 30V**
Current output (terminals 9 and 10):	
- load resistance:	**≤ 750Ω**
- short-circuit protection:	**YES – protection against voltage on output - max 30V**
Other:	
- accuracy of analog signal processing:	**± 0.2%**
- response / conversion time (10-90%):	**≤ 0.3sek**
- separation (U/In/Out):	**1kV, 50Hz, 1 min**
- operating temperature range:	**0-65 °C**
- relative humidity range:	**0-90% (without condensation)**
- level of security:	**IP20**
- work position:	**any**
- weight:	**≤ 150g**
- housing dimensions:	**17.5 x 120 x 116 mm**
- assembly:	**in a housing for a DIN rail (TS35)**