

VA420I Converter



Application:

The VA420I communicates digitally with transmitters (VA201T, VA301D2, E3 Point, XCD and the VASQN8X), within a true daisy chain network, to convert the transmitters digital signals to analog outputs. This allows each transmitter to provide a 4-20mA signal to a BMS from one central location. The unit can accommodate up to 8 transmitters installed at distances of up to 2000 feet from the unit.

To avoid expensive DDC hook-ups and BMS software upgrades, the unit comes with internal logic that will provide either minimum/ maximum/average reading for up to 16 transmitters.

VA420I Features:

- Easy installation through daisy chain hook-up (RS-485)
- Provides dedicated 4-20mA outputs for up to 8 transmitters or either Min/Max/Avg outputs for up to 16 transmitters.
- Fully compatible with the VA201T and VA301D2 series as well as the VASQN8X.
- Communicates with transmitters at distances of up to 2000 feet.

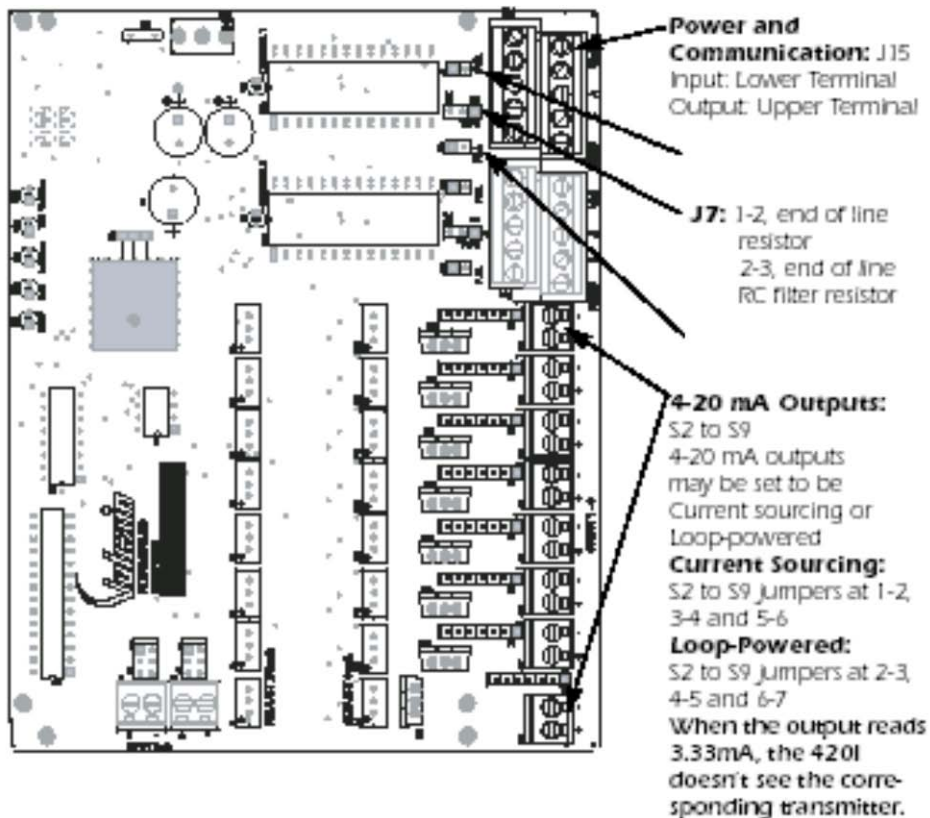
SPECIFICATIONS

Power requirement:

17-27 Vac, 24-38 Vdc, 500 mA

Number of inputs:	One RS-485, Two 4-20 mA
Number of outputs:	8 dedicated 4-20 mA outputs 1 min/max or average for 16 different transmitters
Operating Humidity Range:	0% - 95% RN, non-condensing
Dimensions:	8.4 in (H) x 8.6 in (W) x 2.5 in (D) (21.3 cm x 13,4 cm x 5.7 cm)
Weight:	3.5 lbs (1.58 kg)

ELECTRICAL OVERVIEW:



AVAILABLE CONFIGURATIONS FOR THE VA420I

The VA420I converter may be configured in three modes.

Electrical Wiring



RS-485 to 4-20mA
VAC
A
B
SHIELD

4-20mA Active/Passive
S2 – S9 Jumpers

4-20mA Output 8



4-20mA Output 1

LISTENING MODE

In this mode, the VA420I only listens to the information transmitted between the controller and the transmitters. It does not intervene in network operation. The converter transforms the numeric signal from the transmitters into a 4-20 mA analog signal. Once set, the converter provides a 4-20 mA analog signal for the transmitters at address 1 to 8 or 9 to 16 if the converter is connected to channel 1 of the VA201C, and 17 to 24 or 25 to 32 if the converter is connected to channel 2. Each converted signal is associated with a distinct output (J16 through J23).

Three statistic values are also available: Minimum, Maximum and Average, with the appropriate settings. These values are available with addresses 1 to 8, 9 to 16, or 1 to 16 if the converter is connected to channel 1 of the VA201C, or 17 to 24, 25 to 32, or 17 to 32 if the converter is connected to channel 2. The outputs associated with the statistic mode are the following:

Output J20: Average, Output J18: Minimum ,and Output J16:Maximum

INTERROGATING MODE

In this mode, the converter interrogates the network. There is no VA201C on the network. The VA420I (master) interrogates the transmitters (slaves) and converts the numeric signal from the transmitters into a 4-20 mA analog signal. Once set, the converter provides a 4-20 mA analog signal for the transmitters at address 1 to 8 or 9 to 16 if the converter is connected to channel 1 of the VA201C, and 17 to 24 or 25 to 32 if the converter is connected to channel 2. Each converted signal is associated with a distinct output (J16 through J23).

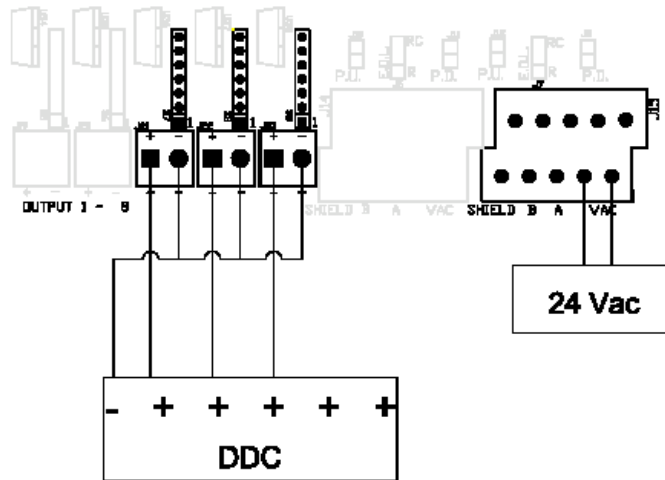
Three statistic values are also available : Minimum, Maximum and Average, with the appropriate settings. These values are available with addresses 1 to 8, 9 to 16, or 1 to 16 if the converter is connected to channel 1 of the VA201C, or 17 to 24, 25 to 32, or 17 to 32 if the converter is connected to channel 2. Each converted signal is associated with the following outputs;

Output J20: Average, Output J18: Minimum, and Output J16: Maximum.

4-20 mA CONFIGURATION LOOP

4-20 mA CURRENT SOURCING OUTPUT

The transmitter supplies the loop current. The maximum impedance supported by the loop is 400 ohms. To enable this configuration, the three jumpers must be placed on positions 1-2, 3-4 and 5-6 at distinct outputs J16 through J23. A dedicated power supply must be used with each unit. Considerable damage may occur if this condition is not strictly followed.

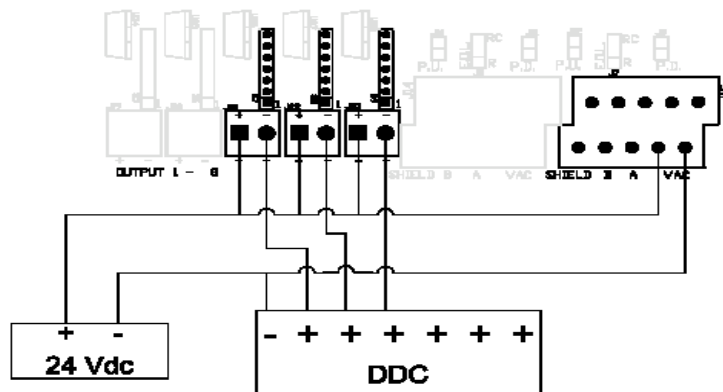


4-20 mA OUTPUT LOOP-POWERED OPERATION

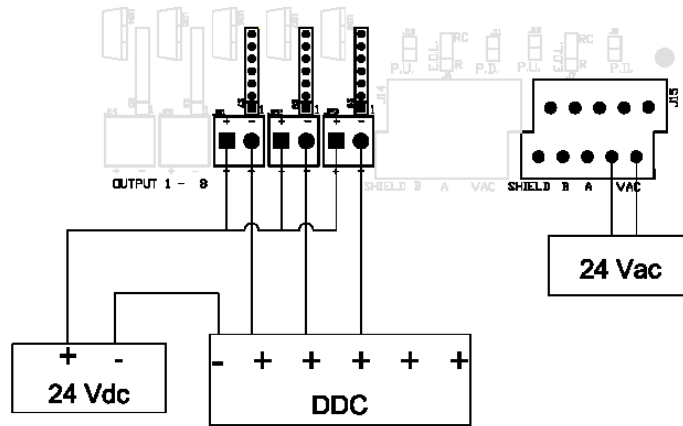
(Factory Setting)

The 4-20 mA output is factory set for loop-powered operation and requires a power source of 12 Vdc to 30 Vdc. The overall permitted impedance depends on the voltage supplied at the 4-20 mA loop. To enable this configuration, the three jumpers must be placed on positions 2-3, 4-5 and 6-7 at distinct outputs J16 through J23.

3-wire configuration



4-wire configuration



PERIODIC INSPECTIONS AND CALIBRATION

This unit requires calibration. The calibration frequency will be a function of the operating conditions, including operating under extreme temperatures, exposure to contaminants or gas concentrations greater than the lower explosive limits. A calibration inspection must be included as part of a routine maintenance to ensure proper operation of the gas detection unit. If unit span or zero cannot be adjusted, the sensor may be approaching its end-of-life or has been contaminated and must be replaced.

SURFACE-MOUNT INSTALLATION

Installation of the converter simply requires the physical mounting of the enclosure and connection of the power and output lines.

INSTALLATION GUIDELINES:

- Make sure to locate the monitor and sensing assemblies in an area easily accessible to a technician.
- Avoid any location where the monitor could be subject to vibrations.
- Avoid any location close to equipment emitting electromagnetic interference.
- Avoid any location where temperature changes occur rapidly.
- Conduit installation must conform to local fire, building and electrical codes.

WARRANTY

Honeywell Analytics warrants to the original purchaser that its product, and the component parts thereof, will be free from defects in workmanship and materials for a period of one year from the date of purchase. Honeywell Analytics will, without any charge and at its option, repair or replace defective products or components upon their delivery to its Repair and Service Department. This warranty does not apply in the event of misuse or abuse of the product, or as a result of unauthorized alterations or repairs. Honeywell Analytics shall not be liable for any consequential damages, including, without limitation, damages resulting from loss of use.