

Introduction

Your Anderson GK Series DC Process is one model in a family of 1/8 DIN units which offers breakthrough display technology as well as easy-to-program single-line parameters. Designed to provide instant visual feedback regarding an application's key input value, the GK Series unit not only has a 0.71" high LED display (27% larger than other 1/8 DIN units), but also the ability to change display color based on process status (programmable parameter in Operation Mode). Easy programming is made possible via a help function and a secondary legend display.

This manual will guide you through the installation and wiring of your GK Series unit with information on proper panel mounting and rear terminal layout and wiring instructions. In addition, the instrument's operation, programming, and configuration modes are thoroughly explained. The Operation Mode provides day to day operation and allows editing of preset values. The Program Mode enables the configuration of various parameters prior to initial operation. These parameters include those for basic configuration as well as other settable features which will enhance the functionality and usability of the device. The Configuration Mode allows selection of how outputs and special functions are utilized.

This manual also provides information on the GK Series DC Process' alarms; transistor, relay, and linear outputs; product specifications; and ordering and warranty procedures.



Features

- AWESOME 0.71" high digit LED display
- Programmable color change display based on an event
- Programmable help function and secondary legend display
- High and low alarm outputs
- mA inputs to 50mA, DCV inputs to ± 10 Volts and ± 100 mV
- Tare function
- Standard outputs: two NPN transistors & one relay (optional 2nd relay)
- 100 ms sample time with 0.03% accuracy
- Optional RS-485 plug in card
- CE approved

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Technical Manual



GK Series DC Process





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Technical Bulletin

AWESOME DIGITAL PANEL METER
INPUT WIRING DIAGRAMS

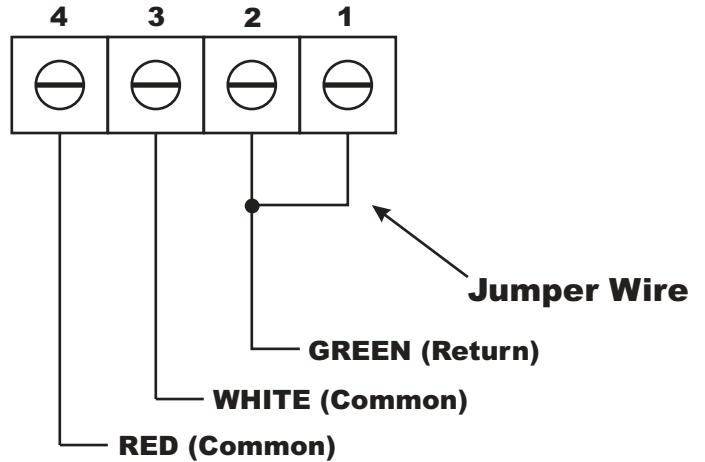
This bulletin is designed to cover sensor input wiring for the “Awesome Temperature” and “Awesome DC Process” digital indicators

Awesome Model: Temperature

Follow the diagram as illustrated for proper wiring of RTD Temperature Sensors

Color codes given for Anderson pre-wired RTD Temperature Sensor

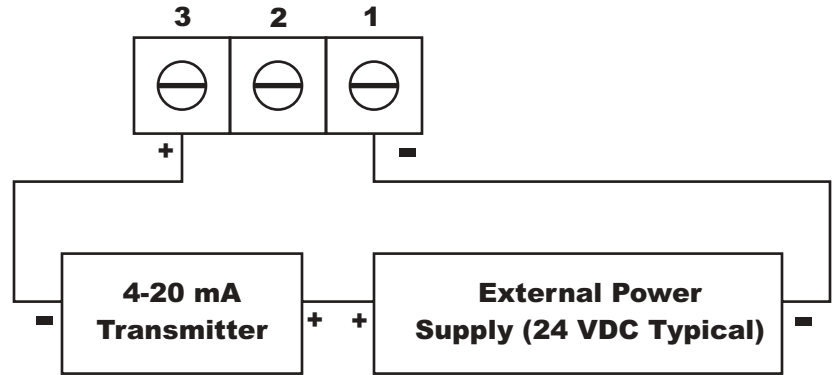
Jumper must be in place from Terminal 1 to Terminal 2



Awesome Model: DC Process

Follow the diagram as illustrated for proper wiring of EXTERNALLY POWERED mA Sensors

CAUTION: Remove any factory installed jumper going from Terminal 1 to Terminal 5 - Not needed for this wiring configuration

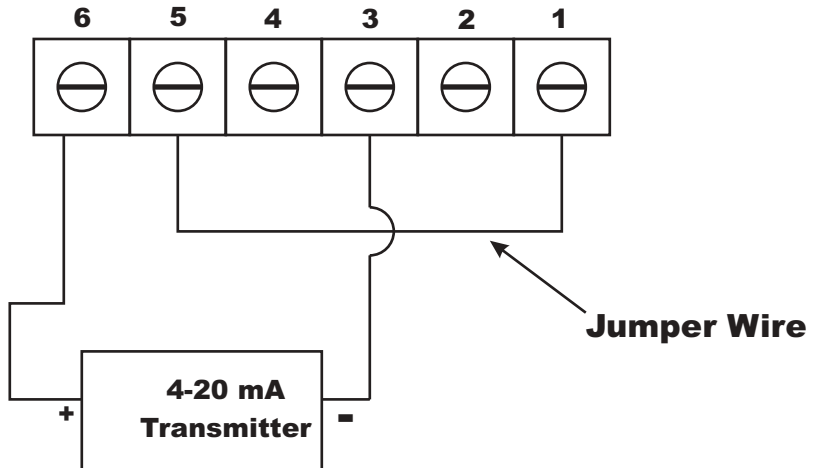


Awesome Model: DC Process

Follow the diagram as illustrated for proper wiring of INTERNALLY POWERED mA Sensors

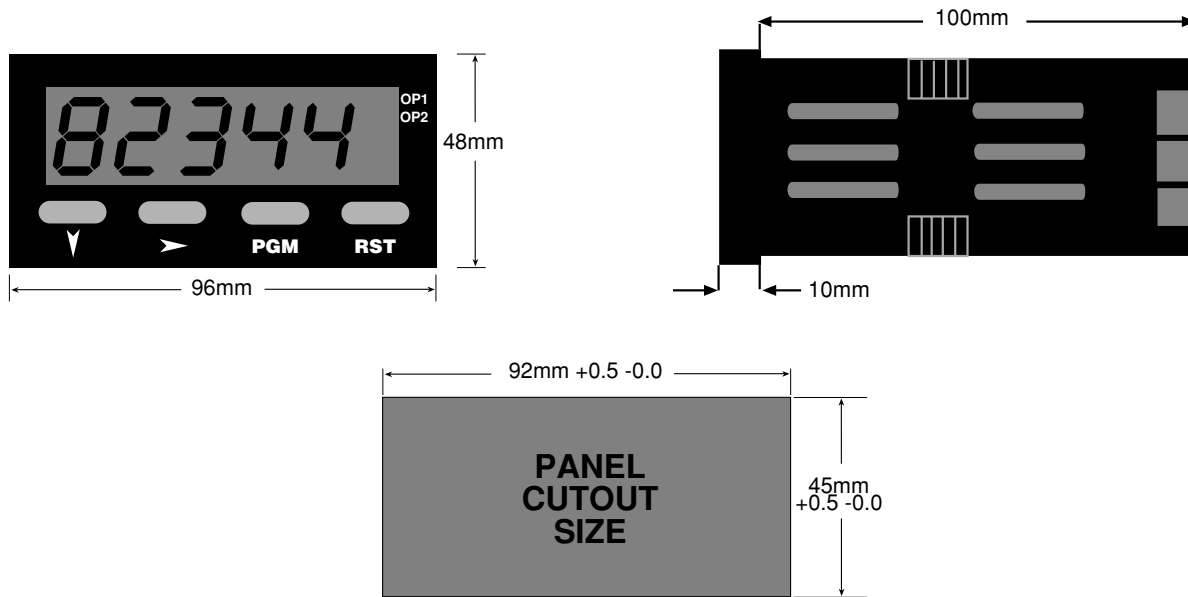
NOTE: Jumper going from Terminal 1 to Terminal 5 must be present for proper operation

NOTE: All model DC Process Awesome Indicators are supplied with on-board loop power capability



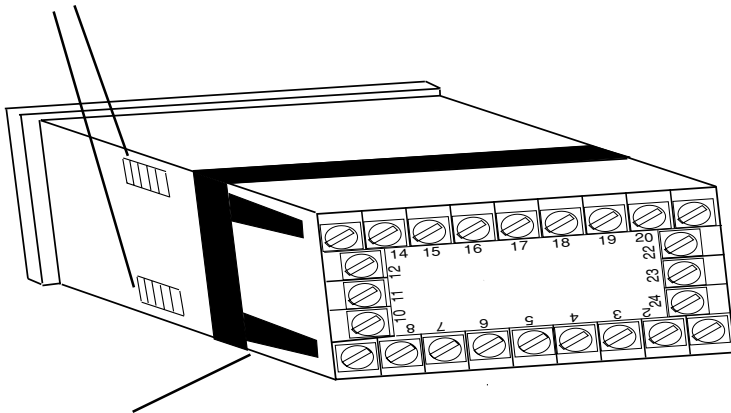
INSTALLATION

PANEL MOUNTING



The instrument can be mounted in a panel with a thickness of up to 6mm. The cutout(s) should be made based on the recommended panel opening illustrated in the drawing above.

Mounting Grooves



Insert the unit in the panel through the cutout. Ensure that the panel gasket is not distorted and the instrument is positioned squarely against the panel. Slide the mounting clamp into place on the instrument, as shown to the left, and push it forward until it is firmly in contact with the rear face of the mounting panel and the tabs on the bracket arm are seated in the mounting grooves on the side of the unit.

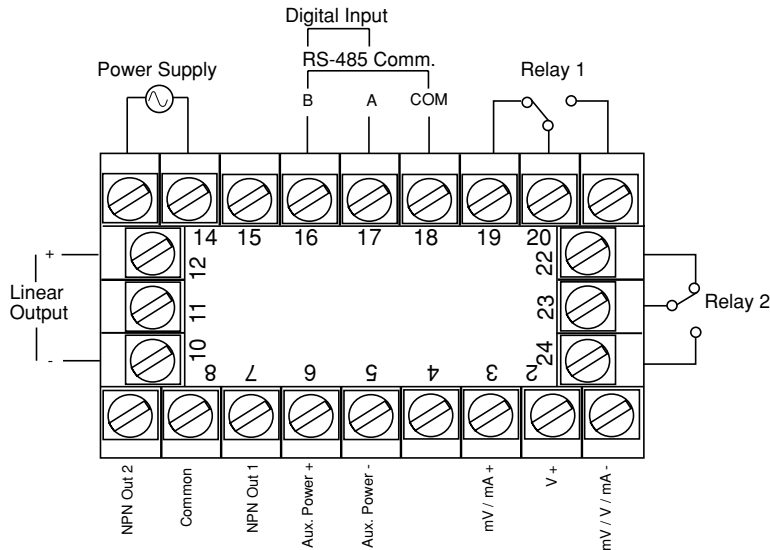
The electronic components of the instrument can be removed from the housing after installation without disconnecting the wiring. To remove the components, grip the side edges of the panel and pull the instrument forward. Take note of orientation of the unit for subsequent replacement in the housing.

Bracket Arm

INSTALLATION

WIRING

REAR TERMINAL CONNECTIONS



Transistor Outputs

Your unit comes standard with 2 NPN outputs which are activated by each of the alarms. Transistor Output 1, which is tied to Alarm 1, is on Terminal #7. Transistor Output 2, which is tied to Alarm 2, is on Terminal #9. Terminal #8 serves as the common connection for both transistor outputs.

Relay Outputs

Your unit comes standard with a relay output which is tied to Alarm 1. Terminal #19 is NC, Terminal #20 is common, and Terminal #21 is NO. A second relay output tied to the operation of Alarm 2 can be added as an option at the time of order or later installed in the field. Terminal #22 is NC, Terminal #23 is common, and Terminal #24 is NO.

DC Inputs

Your unit accepts millivolt, Volt, or milliamp DC ranges. Terminal #1 is used for mV, V, or mA negative inputs. Terminal #2 is used for V positive inputs, while Terminal #3 is used for mV or mA positive inputs.

Control/Digital Inputs

A digital input board, which utilizes Terminals #16 & #17, can be installed as an option. The input can be programmed in Configuration Mode to perform one of two functions:

- *Tare*: When activated, the unit will create an automatic offset by referencing the currently measured value as the new zero point.
- *Security*: When activated, the Program and Calibration Modes will not be accessible from the front panel.

Please note that this option is mutually exclusive with the RS-485 serial communication option.

Input Power

For an AC powered unit, Terminal #13 serves as the line or Hot side connection for AC powered units and as the positive side for DC powered units. The neutral side for AC powered units and the negative side for DC powered units are connected to Terminal #14.

Serial Communication

An RS-485 communication board, utilizing ASCII protocol, can be installed as an option. Terminals #16 & #17 serve as the B and A connections respectively, while Terminal #18 is connected as the common.

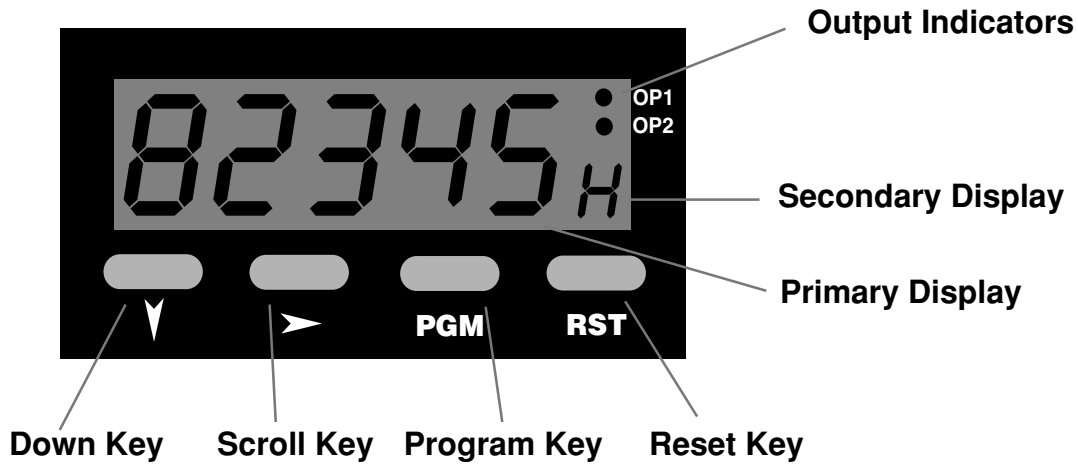
Linear Output

An option board may be installed that provides a 10 bit linear output signal relative to the Process Value. Terminal #12 is the positive side of the connection, and Terminal #10 is the negative side. The default range of the output is 4-20 mA, but can be changed via the Configuration Mode to 0-20 mA, 0-10 VDC, 2-10 VDC, 0-5 VDC, or 1-5 VDC.

Terminals 4, 11, & 15 are not used.

OPERATION

FRONT PANEL



Key Functions

Key	Function
Down	<i>In Operation Mode:</i> Used in Edit Operation to decrement the digit highlighted by the Scroll key. <i>In Program & Config. Modes:</i> Used in Edit Operation to decrement the digit highlighted by the Scroll key, if the setting is a numerical value, or present the next in the series of choices for that parameter.
Scroll	<i>In All modes:</i> Moves the unit into Edit Operation, which is indicated by the left most digit flashing. Successive presses of the key are used to move to the digit to be edited. Wrap around will occur from least significant digit to most significant digit.
Program	<i>In Operation Mode:</i> Used to move between the process value display & the presets and to enter an edited preset value. Holding the key down for 3 seconds will cause the unit to enter Program Mode. <i>In Program Mode:</i> Used to move from one parameter to the next and enter the edited parameter values. Holding the key down for 3 seconds will cause the unit to return to Operation Mode. <i>In Config. Mode:</i> Used to move from one parameter to the next and enter the edited parameter values.
Reset	<i>In Operation Mode:</i> Resets a latched alarm if pressed while the process value is being viewed. Pressing this key while viewing the max or min value will cause those values to be reset. <i>In Program & Config. Modes:</i> No function.
Down & Scroll	<i>In All modes:</i> Will abort an Edit Operation and return the preset/parameter to its previous value.

Key Functions

Key	Function
Down & Program	<i>In Config. mode:</i> Holding down both keys for 3 seconds will cause the unit to return to Operation Mode. <i>In Operation & Program Modes:</i> Holding down both keys for 3 seconds will cause the unit to enter to Config. Mode.

Display Functions

Key	Function
Primary	<i>In Operation Mode:</i> Default display is the Process Value. Can be scrolled using the program key to display other Operation Mode values. If the "Help" function is enabled, this display will first show the parameter description for 3 seconds (example - page 6). <i>In Program & Config. Modes:</i> Displays the value or selection for the current parameter. If the "Help" function is enabled, this display will first show the parameter description for 3 seconds (example - page 7).
Secondary	<i>In Operation Mode:</i> Provides an alpha or numeric identification of the value on the primary display. This display is blank when the Process Value is being shown. <i>In Program & Config. Modes:</i> Provides a 1 digit alpha or numeric character to indicate which parameter value is being shown on the primary display.
Output Indicators	<i>In Operation Mode:</i> Illuminates when Output 1 and or Output 2 is active. <i>In Program & Config. Modes:</i> No function.

OPERATION

OPERATION MODE

CHANGING A PRESET VALUE



Default display is the process value.



Pressing the Program Key will cause the display description to appear on the main display.* If there is no key activity for 3 seconds, the primary display will switch back to the process value.



Maximum (High) Value: Displays the maximum process value the unit has received as an input. The value can be reset (only while being displayed) by pressing the Reset Key.



Minimum (Low) Value: Displays the minimum process value the unit has received as an input. The value can be reset (only while being displayed) by pressing the Reset Key.



Alarm 1 Elapsed Time: Displays the accumulated amount of time the alarm 1 condition was present. This value will continue to accumulate until it is reset by pressing the Reset Key (while the value is being displayed). The value is displayed in mm:ss up to 99 min 59 secs., then changes over to mmm.m



Alarm 1 Value: Defines the process value at or above which Alarm 1 will activate if set to Process High Alarm in Configuration Mode or the process value at or below which Alarm 1 will be active if set to Process Low Alarm in Configuration Mode. The default value is 100.00



Alarm 2 Value: Defines the process value at or above which Alarm 2 will activate if set to Process High Alarm in Configuration Mode or the process value at or below which Alarm 2 will be active if set to Process Low Alarm in Configuration Mode. The default value is 100.00



Total: Displays the total value based upon integration of the input signal using a programmable time base. The value can be reset (only while being displayed) by pressing the Reset Key.

* Parameter descriptions will not appear on the primary display if the "Help" function has been disabled.

