



GENERAL DISPLAYER & CONTROLLER



GDC-01/02, Single Channel or Dual-channels Terminal



GDC-04/06/08, Multiple Channels Terminal



GDC-H, Handheld Terminal



GDC-Ex, Explosion Proof Terminal



Delta-Phase Electronics, Inc.

GENERAL DISPLAYER & CONTROLLER

The Advantage

Universal Terminals: Use with Cross Smart Sensors for measurements of water analyzing, Gas analyzing and process control.

Advanced Display: -40°C tolerance brighter OLED screen for GDC-01/02, GDC-H and GDC-Ex. Colorful touch screen LCD for GDC-04/06/08

Multiple Channels: Simultaneous Acquisition one or two sensors for GDC-01/02, GDC-H or GDC-Ex; GDC-04/06/08 are for 4, 6 or 8 Channels.

4-20 mA output with Optional HART and Alarm Relays: Flexible configurations for all applications.

GDC-Ex Explosion Proof Terminal: Using a magnetic screwdriver through the display window to set up the GDC -Ex, eliminates the need to open the enclosure cover.

USB Port attached with GDC-H and GDC-04/06/08 for easy data log.

Optional Wi-Fi for GDC-04/06/08, can be connected wirelessly by Pad, smart phones and computers for remote display and operations.

DESCRIPTION

GDC (General Displayer & Controller) series terminal are designed for continuous measurements with Cross Smart Sensors in a general purpose industrial or municipal environment. GDC terminals have the ability to extend network by intelligent sensors with RS485 output, Modbus RTU protocol. GDC terminals supply power to sensors in the meantime of getting signals. A plug and play function can be expected for those sensors in our recommended list, that means if you plug an intelligent sensor into a GDC and it will automatically configure to any of the listed measurements. GDC terminals can be expanded to work with any sensors with analogue or digital outputs for customized configuration.

Cross Smart Sensors

Water analyzing:

- SA-9 in-situ UV-VIS Spectrum sensor are for parameters like COD, TOC, DOC, SAC, BOD, NO3-N, Dissolved Ozone, Dissolved Hydrogen Sulfide, Color etc.
- MV7 series ISE sensors are for parameters of pH, ORP, Specific Ion, Dissolved Oxygen (ISE), Conductivity or Resistivity.
- FC7 free Chlorine sensor reduced pH dependence (optional total chlorine and chlorine dioxide sensors)
- OZ7 dissolved Ozone sensor.
- DO7 optical Dissolved Oxygen sensor.
- TS7 Turbidity and SS sensor.

Gas analyzing:

- AIM-1000 series smart zirconia Oxygen probe sensor.
- AIM-3000 series smart tribo-electric dust monitoring probe sensor.
- SDT series gas detecting sensors.

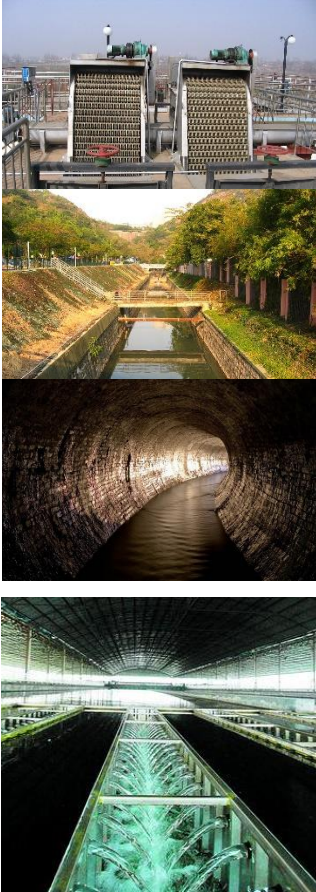
Process measurements & control:

- PG7 intelligent pressure sensor.
- UL7 intelligent ultrasonic level sensor.
- DI7 series smart Insertion electromagnetic flow sensors.



SPECIAL CONFIGURATIONS AND APPLICATIONS

Delta-Phase developed some optional software and configurations of GDC terminals for some special application especially in water and waste water treatments as following...



Bar Screen and Travelling Screen level differential

GDC-02 connects two UL7 ultrasonic level sensors to measure levels of both up-stream and down-stream of Screen, GDC calculates the level differential and outputs signal to PLC or other control system for Bar Screen or Travelling Screen control.

Open Channel Flow

GDC terminals measure flow of standard Open Channel weir like Parshall Flume or other Flumes & weirs by using UL7 ultrasonic level sensor. GDC calculates the flow by level scale, displays the instant and accumulative flow readings, provide 4-20 mA output, pulse signal, RS485 MODBUS RTU and Alarm Relays.

Flow Measurements

GDC terminals connect to DI7 insertion-style electromagnetic sensor can be used for flow measurements of water or waste water in pipes. Operators can view flow rate, total, and alarms. The display is also used in conjunction with the Configuration Panel to access flow meter settings, such as 4 to 20mA and pulse output scaling, pipe diameter, zero flow cutoff, flow filtering (damping), display options, and high or low alarm limits.

Atmospheric Pressure Compensation

GDC terminals allow the optional atmospheric pressure compensating function by a built-in Freescale chip to measure ambient air pressure. The benefits include more accurate DO readings especially for surface water, reliable and precise measurements when use robust PG7 Absolute Pressure sensor as submersible level probe by eliminating the capillary tube into cable.

Filter Water Level and Head Loss

GDC-02 combines two PG7 AP sensors with atmospheric pressure compensation to measure both Water Level and Head Loss in Sand Filter, Activated Carbon Filter or other filters.

SPECIFICATIONS

Measuring Parameters

Depended on Cross Smart Sensor

Accuracy

±0.1%F.S.

Repeatable

±0.1%

Linearity

±0.05%

Respond time

T90<1s

Compensation

Atmosphere compensation for Dissolved Oxygen and pressure measurements

Display

GDC-01/02/H/Ex: OLED Screen
 GDC-04/06/08: LCD Touch Screen
 Parameter, value, % and Unit

Operating Temperature

GDC-01/02/H/Ex: -40 to 158°F (-40 to 70°C)
 GDC-04/06/08: -4 to 140°F (-20 to 60°C)

Input

Analog input 4~20mA
 Digital input RS485 Modbus

Output

Analog output: 4~20mA, Optional HART,
 up to 8 Channels depended on GDC model
 Digital output: RS485 Modbus, Optional wifi
 Optional USB2.0
 Relay: up to 8 SPDT (See Model selection), 5A@250VAC/
 5A@30VDC
 Pulse: flow measurement only


Power

24VDC (13.5~50VDC), 110/220VAC@50Hz/60Hz

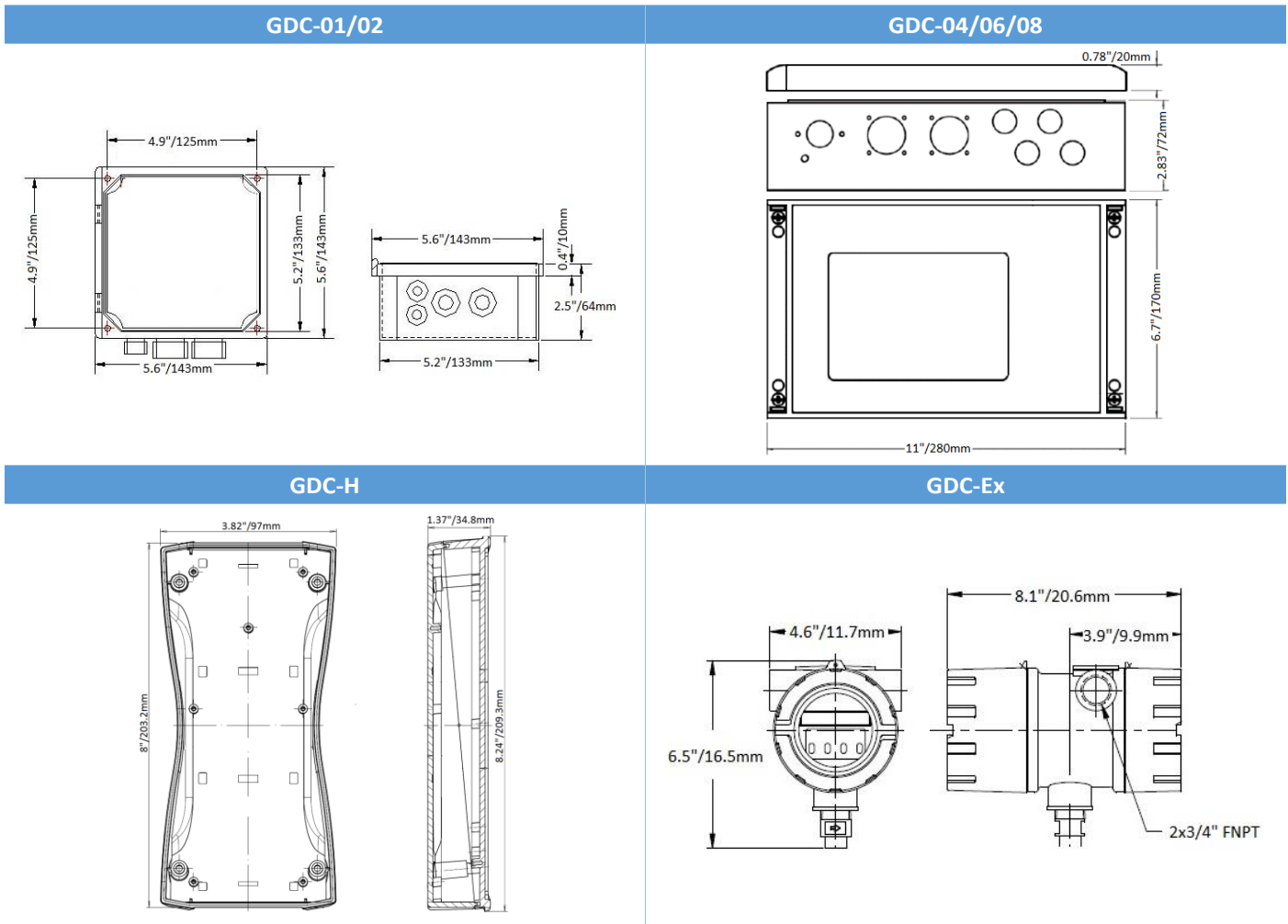
Weight

GDC-01/02 1.76lb. (0.8kg)
 GDC-04/06/08 3.31lb. (1.5kg)

Conform to the following EU Directives & Standards:

	Low Voltage Directive 2014/35/EU
	Electromagnetic Compatibility Directive 2014/30/EU
	RoHS 2 Directive 2011/65/EU
	EN 61010-1:2010; EN 61326-1:2013

DIMENSION



General Displayer & Controller					
	-01	Single Channel	-02	Dual Channels	
	-04	Four Channels	-06	Six Channels	-08 Eight Channels
	-H	Handheld	-Ex	Explosion-proof	
		- RS485 Modbus (Standard)			
		-BP Profibus-DP		-BH HART	
		-BW wifi (Only for GDC-04/06/08)			
		- Two SPDT Relays (Standard for GDC-01/02)			
		-R4 Four SPDT Relays (Standard for GDC-04/06/08 or Optional for GDC-01/02)			
		-R6 Six SPDT Relays (for GDC-04/06/08 only)		-R8 Eight SPDT (for GDC-04/06/08 only)	
		-AC 110/220VAC			
		-DC 24VDC			
		- None		-ATM	Atmosphere compensation
		-AL Acousto-optic Alarm		-WHL	Water Head Lost
GDC	-02	-	-	-AC	-

Specifications subject to change without notice.



WATER GAS MONITORING

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