

Project:	
Customer:	
Engineer:	
Pump Manufacturer:	

Technical Data Submittal Document

Model GPD

Diesel Engine Driven Fire Pump Controller



Contents:

Data Sheets
Dimensional Data
Wiring Schematics
Field Connections

Note: The drawings included in this package are for controllers covered under our standard offering. Actual AS BUILT drawings may differ from what is shown in this package.









	Built to NFPA 20 (latest edition)			
Standard,	Underwriters Laboratory (UL)	UL218 - Fire Pump Cont	trollers	
Listings,	FM Global	Class 1321/1323		
Approvals and	New York City	Accepted for use in the C	City of New York by the	Department of Buildings
Certifications	Optional			
	☐CE Mark	Various EN, IEC & CEE	directives and standard	ds
	Protection Rating			
	☐ Standard: NEMA 2			
	Optional			
	_	NEMA 4X-304 sst painte		☐ IP54
Enclosure	-] NEMA 4X-304 sst brush] NEMA 4X-316 sst painte		☐ IP55 ☐ IP65
		NEMA 4X-316 sst brush		☐ IP66
	Accessories	Pa	aint Specifications	
	Bottom entry gland plate	• F	Red RAL3002	
	Lifting Lugs Keylock handle		Powder coating Glossy textured finish	
	Noylean Hamaia		<u> </u>	
Ambient	Standard 4°C to 40°C / 39°F to 10	ı∕ı∘⊏		
Temperature	Optional	/+ 1		
Rating	4°C to 55°C / 39°F to 13		d atomaloud with FF°O not	·
	Controllers built in Dubai, UAE (omateon FZE) are supplied	u standard with 55 C rat	iiig.
	AC	☐ 120V / 1ph / 60hz ☐ 208V to 240V / 1pl		
			11 / 30-0011 <u>2</u>	
Camanal	DC	☐ 12VDC ☐ 24VDC		
General	Grounding system	• Negative		
	Grounding system	Two independent fully a	automatic	
	Battery chargers	• 10A continuous charge		
		500mA trickle charge		
Electrical Reading	Battery 1 & Battery 2 voltage			
		a amperade		
	Battery 1 & Battery 2 charging Charging mode	g amperage		
Pressure Reading	Battery 1 & Battery 2 charging Charging mode Continuous system pressure	display		
Pressure Reading	Battery 1 & Battery 2 charging Charging mode Continuous system pressure Cut-in and cut-out pressure s	display etting		
Pressure Reading	Battery 1 & Battery 2 charging Charging mode Continuous system pressure Cut-in and cut-out pressure s Pressure readings with dates	display etting tamp		
Pressure and	Battery 1 & Battery 2 charging Charging mode Continuous system pressure Cut-in and cut-out pressure s	display etting tamp mp	in memory for the life o	of the controller.
	Battery 1 & Battery 2 charging Charging mode Continuous system pressure Cut-in and cut-out pressure s Pressure readings with date selections.	display etting stamp mp eration, events are stored i erface display screen	in memory for the life o	of the controller.











Pressure sensing	 Pressure transducer and run test solenoid valve assembly for fresh water application Pressure sensing connection 1/2" Female NPT Drain connection 3/8" Rated and calibrated for 0-500psi working pressure Externally mounted with protective cover 			
Audible Alarm	6" alarm bell - 85 dB at 10ft. (3m)			
Visual Indications	 Engine run Main switch AUTO Main switch in OFF Main switch in HAND Pump room temperature (°F or °C) 			
Visual & Audible Alarms	Visual only Pump room trouble Pump on demand AC Failure Charger 1 & 2 Failure Weak battery 1 & 2 Battery 1 & 2 overvoltage Visual and Audible Engine trouble Engine low oil pressure Engine low temperature Engine overspeed DC Failure PLoss of continuity 1 & 2 High fuel level Engine trouble Loss of continuity 1 & 2 ECM warning Weekly test cut-in not reached Check weekly test solenoid Pressure transducer fault Invalid Cut-In Service required ECM warning Weekly test cut-in not reached Check weekly test solenoid Pressure transducer fault Invalid Cut-In			
Remote Alarm Contacts	DPDT-8A-250V.AC • Engine run • Common controller trouble • Charger #1 & Charger #2 failure • Pressure transducer fault • Common engine trouble • High engine temperature • Fail to start • DC failure • Fail when running • Fuel injection malfunction** • Loss of continuity (starter) #1 and/or #2 • ECM selector switch in alternate position*** • PLD low suction pressure • Common pump room trouble (field re-assignable)* • Low fuel level • High pump room temperature • High fuel level • High pump room temperature • Fuel tank leak • H-O-A selector switch in OFF or HAND • Free (field programmable)*			

^{*}Except if option C13 is ordered. Tornatech reserves the right to use any of these four alarm points for special specific application requirements

^{**}Applicable to electronic engines only.

^{***} Applicable to electronic engines only. Alarms when ECM selector switch on the engine is in alternate mode.



Terminals for Field Connections for External Devices	Low fuel level Remote AUTOMATIC start Water reservoir low (re-assignable) Fuel tank leak (re-assignable) High fuel level (re-assignable)			
ViZiTouch V2 Operator Interface	Embedded microcomputer with software PLC logic 7.0" color touch screen (HMI technology) Upgradable software Multi-language			
	Selector Switch	Hand-Off-Auto Behind lockable and brea	akable cover	
	Automatic Start	Start on pressure drop Remote start signal from automatic device		
	Manual Start	Crank 1 and Crank 2 start pushbuttons Run test pushbutton		
	Crank Cycle	6 consecutive cycle attempts 3 X 15s crank from battery 1 or 2 alternatively 15s rest in between each crank attempt		
Operation	Stopping	Manual with Stop pushbo Automatic after expiration	utton n of minimum run timer ****	
	Timers	Field Adjustable & Visual Countdown	Minimum run timer ****(off delay) Sequential start timer (on delay) Periodic test timer	
	Actuation	Wassal India office	Pressure Non-pressure	
	Mode	Visual Indication	Automatic Non-automatic	
Communication Protocol Capability	Protocol: Modbus Connection type: Shielded female connector RJ45 Frame Format: TCP/IP Addresses: See bulletin MOD-GPD			

		Automatic Start	Manual or Remote Start	Run Test or Periodic Test
Alarm and shutdown schedule	High Coolant	Alarm only	Alarm only	Shutdown
	Low Oil Pressure	Alarm only	Alarm only	Shutdown
	Overspeed	Shutdown	Shutdown	Shutdown

	Wall Mount		Floor	Mount
Starting Voltage	Approx. shipping dimensions in inches (mm)	Approx. Shipping Weight in Lbs (kg)	Approx. shipping dimensions in inches (mm)	Approx. Shipping Weight in Lbs (kg)
12V.DC	32" l x 29" w x 16" h	85 (39)	32" l x 29" w x 26" h	115 (52)
24V.DC	(813 x 737 x 407)	65 (39)	(813 x 737 x 661)	113 (32)

^{****} Automatic shutdown shall be approved by the AHJ.



A1	Periodic test alarm contact (DPDT)
A2	Overspeed alarm contact (DPDT)
A3	Low oil pressure alarm contact (DPDT)
A4	High coolant temperature alarm contact (DPDT)
A5	Failure to start alarm contacts alarm contact (DPDT)
A6	Battery 1 & 2 failure alarm contact (2 x DPDT)
A7	Charger 1 & 2 failure alarm contact (2 x DPDT)
A8	AC failure alarm contact (DPDT)
A9	System overpressure alarm contact (For engines with PLD) (DPDT)
A11	Extra controller trouble alarm contact (DPDT)
A12	Extra engine trouble alarm contact (DPDT)
Ax	Additional engine alarm contact (DPDT) (specify function)
☐ B1	Low fuel level alarm contact (DPDT)
B2	Water reservoir level low alarm contact (DPDT)
B3	Water reservoir empty alarm contact (DPDT)
☐ B4	Low pump room temperature alarm contact (DPDT)
B5	High fuel level alarm contact (DPDT)
☐ B6	Low system (discharge) pressure alarm contact (DPDT)
B7	Low suction pressure alarm contact (DPDT)
■ B8	Pump on demand alarm contact (DPDT)
☐ B9	Fuel tank leak alarm contact (DPDT)
B10	Main relief valve open alarm contact (DPDT)
B11	Flow meter loop valve open alarm contact (DPDT)
B12	Water reservoir level high alarm contact (DPDT)
B13	High pump room temperature alarm contact (DPDT)
Вх	Additional pump room alarm contact (DPDT) (specify function)
C5	CE Mark with factory certificate
C6	Nickel – cadmium battery chargers (Battery data sheet required)
C7	Engine block heater circuit - 3KW max (same voltage as battery charger primary)

С7А	Engine block heater circuit - 6KW max (same voltage as battery charger primary) Confirm power rating of block heater
☐ C9	Non pressure actuated controller w/o pressure transducer and run test solenoid valve
C13	Louver activation circuit (battery power specific)
C14	Delayed automatic start on AC power failure (factory set at 15 minutes)
☐ C15	Low zone pump control function
C16	Middle zone pump control function
C17	High zone pump control function
C19	Lockout/interlock circuit from equipment installed inside the pump room
☐ D4	Pressure transducer and run test solenoid valve for fresh water rated for 0-500psi (for factory calibration purposes only)
☐ D6	Pressure transducer and run test solenoid valve for sea water rated for 0-500PSI
☐ D7A	Low fuel level float switch supplied as separate item (1-1/4")
☐ D7B	Low fuel level float switch supplied as separate item (1-1/2")
D8A	High fuel level float switch supplied as separate item (1-1/4")
☐ D8B	High fuel level float switch supplied as separate item (1-1/2")
☐ D9A	Anti-condensation heater & thermostat
D9B	Anti-condensation heater & humidistat
D9C	Anti-condensation heater & thermostat & humidistat
☐ D11	Low suction pressure transducer for fresh water rated at 0-300PSI with visual indication and alarm contact
☐ D11A	Low suction pressure transducer for sea water rated at 0-300PSI with visual indication and alarm contact
D12	Tropicalization
D25	Mounting stand
D25A	Mounting stand SST- 304 painted
D25B	Mounting stand SST- 304 brushed finish
D25C	Mounting stand SST- 316 painted
D25D	Mounting stand SST- 316 brushed finish
D26	Combined low and high fuel level float switch (1-1/4")

Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.



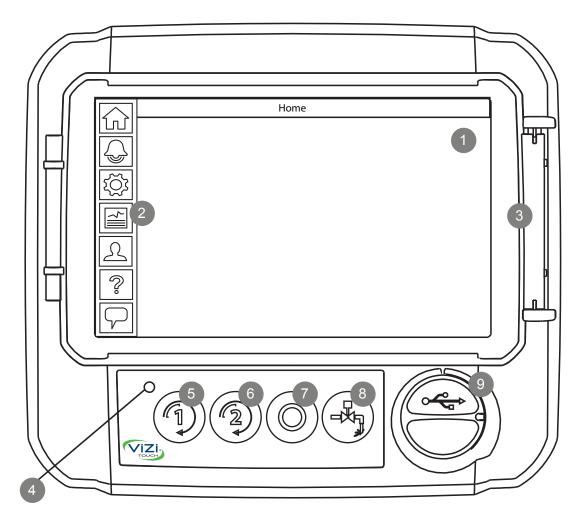
	D26A	Combined low and high fuel level float switch (1-1/2")	Г		Other language and English (bilingual)
H	D27	Fuel level probe (2") Level indication] L02	French
H	D28A	Field programmable I/O board - 5 Input / 5 output] L03	Spanish
	D30	Redundant pressure transducer for fresh water rated for 0-500PSI	Ī	 L04	German
	D31	Redundant pressure transducer for sea water rated for		L05	Italian
H		0-500PSI		L06	Polish
	D32	Modbus with RTU frame format and RS485 connection Seismic Certification compliant to CBC 2019, IBC 2018		L07	Romanian
Ш	D35	rigid base/wall mounted only		L08	Hungarian
	D38	Special Seismic Certification compliant to OSHPD rigid base/wall mounted only		L09	Slovak
				L10	Croatian
				L11	Czech
				L12	Portuguese
				L13	Dutch
				L14	Russian
				L15	Turkish
				L16	Swedish
				L17	Bulgarian
				L18	Thai
				L19	Indonesian
				L20	Slovenian
				L21	Danish
				L22	Greek
				L23	Arabic
				L24	Hebrew
				L25	Chinese
Additi	onal Op	tions:			
□ -					
Ш –					

Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.



ViZiTouch V2 Operator Interface

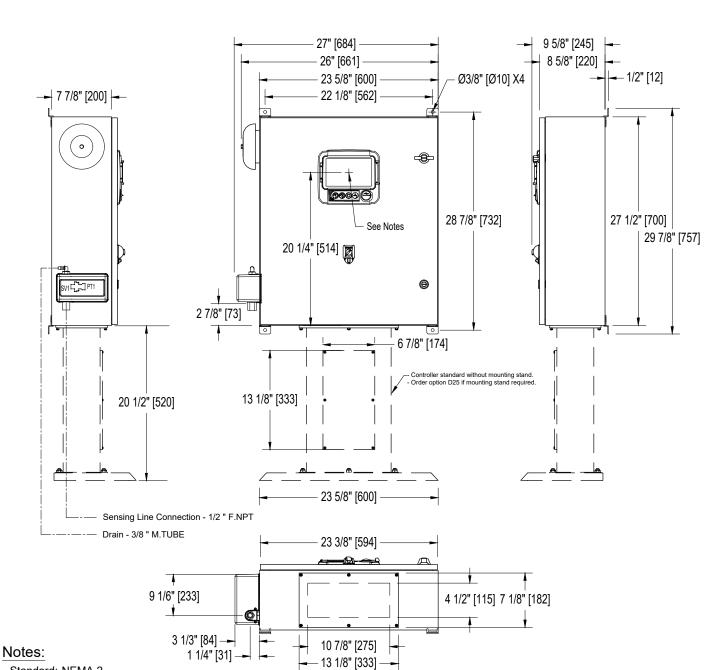




- 1 Color touch screen
- 2 Onscreen menu
 - HOME page
 - ALARM page
 - CONFIGURATION page
 - HISTORY page
 - SERVICE page
 - MANUAL page
 - LANGUAGES page

- 3 Screen protector
- 4 Power LED (3 colors)
- 5 CRANK 1 button
- 6 CRANK 2 button
- 7 STOP button
- 8 RUN TEST button
- 9 USB port

Model: GPD



- Standard: NEMA 2 Standard paint : textured red RAL 3002.
- All dimensions are in inches [millimeters].
- Center of ViZiTouch screen: 20-1/4" [514] from bottom (no feet).
- Bottom conduit entrance through removable gland plate recommended.
- Use watertight conduit and connector only.Protect equipment against drilling chips.
- Door swing equal to door width.

Drawing for information only.

Manufacturer reserves the right to modify this drawing without notice. Contact manufacturer for "As Built" drawing





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proved	
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REV.	DESCRIPTION	DD/MM/YY	
2.	Removed Seismic logo (optional)	18/05/22	
1.	Revised logo	18/06/18	
n	First issue	18/11/16	lor.

Projection

Drawing number

GPD-DI700 /E

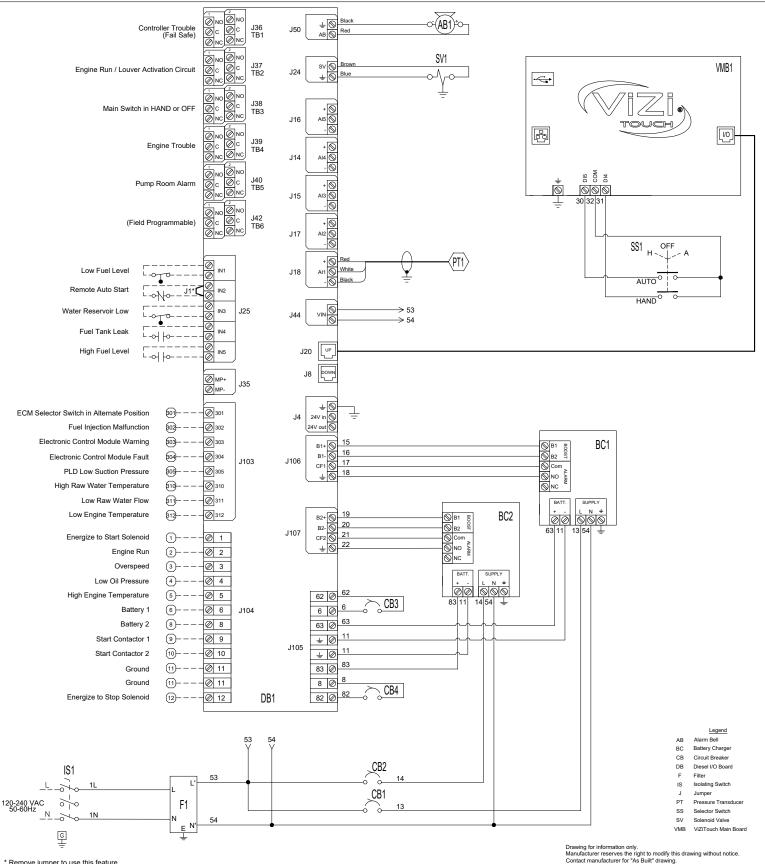
18/11/16 CDL ner, including as the basis for the manufacture or sale of any product

Model: GPD

Diesel Engine Fire Pump Controller 12VDC or 24VDC Negative Ground

Wiring schematic

Built to the latest edition of the NFPA 20 standard



Remove jumper to use this feature

Drawing number



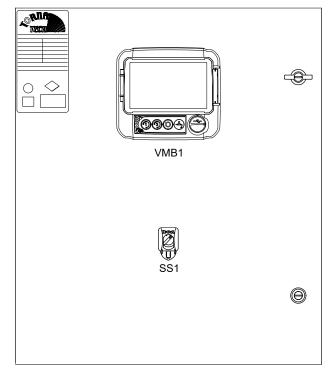


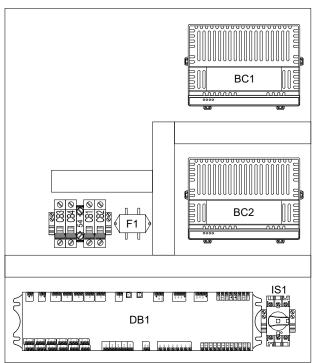


REV.	DESCRIPTION	DD/MM/YY	
4	Removed Seismic logo (optional)	18/05/22	
3	Water Reservoir Modified	04/04/19	
2	Revised logo	18/06/18	C

La	yc	ut

Designation	Description
BC1-BC2	Battery Charger #1 and #2
CB1-2	Magnetic Breaker 1 Pole 10 A
CB3-4	Magnetic Breaker 1 Pole 16 A
DB1	I/O Diesel Board
F1	Filter
IS1	Isolating Switch
SS1	Lockable 3 Position Selector Switch
VMB1	ViZiTouch Main Board





Front Door Layout

Internal Layout







REV.	DESCRIPTION	DD/MM/YY	
2	Removed Seismic logo (optional)	18/05/22	
1	Revised logo	18/06/18	
0	First issue	21/11/16	ICE

Drawing number

GPD-LY700 /E

Diesel Engine Fire Pump Controller 12VDC or 24VDC Negative Ground

Terminal Diagram

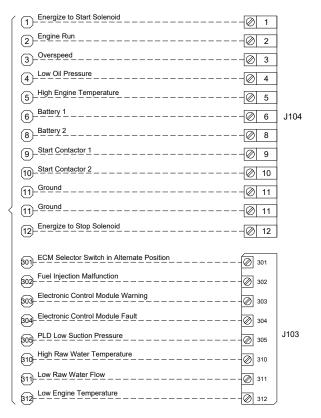
Engine Terminal Strip

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Model: GPD

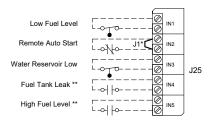
Power Supply Terminals Wire Size: 14 - 6 AWG 3.9 Nm 120-240 VAC 50-60Hz L N G G

Engine Connections (DB1)



Field Connections (DB1)

Terminals Wire Size: 24 - 12 AWG 0.5 Nm



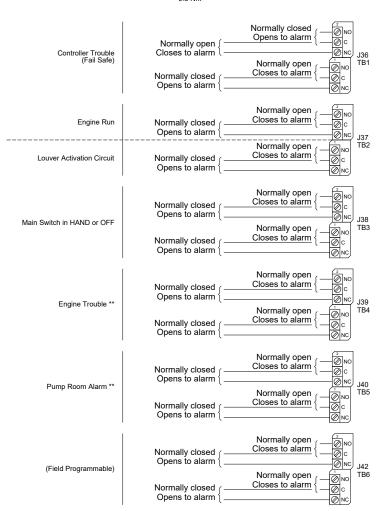
Network Connection (VMB1)

Shielded Female Connector RJ45



Remote Alarm Terminals (DB1)

Terminals Wire Size: 250VAC / 8A Max. 24 - 12 AWG 0.5 Nm



All wiring between the controller and diesel engine shall be stranded (NFPA20)

Wiring between controller and engine (terminals 301, 302, 303, 304, 305, 310, 311, 312, 2, 3, 4, 5) must be #14AWG as minimum.

Wiring between controller and engine (terminals 12 [rated at 10A or 22A for 20 seconds] 1, 9, 10 [rated at 10A]) must be stranded #10AWG as minimum.

Wiring between controller and engine (terminals 6, 8, 11 [rated at 30A]) must be stranded and sized according to distance.

0-5' (0-1.5m) - 12 AWG (4 mm2) 6-10' (1.8-3m) - 10 AWG (6 mm2) 11-15' (3.3-4.5m) - 8 AWG (10 mm2) 16-20' (4.8-6m) - 2x10 AWG (2x6 mm2) 21-32' (6.4-9.75m) - 2x8 AWG (2x10 mm2)

Drawing for information only.

Manufacturer reserves the right to modify this drawing without notice

Contact manufacturer for "As Built" drawing.

* Remove jumper to use this feature ** Re-assignable



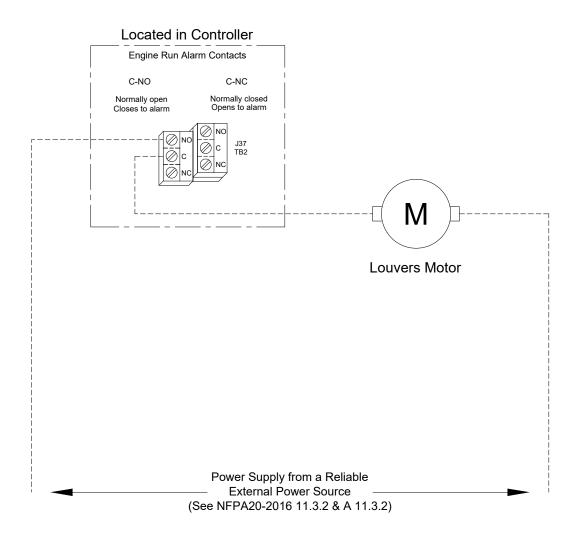




REV.	DESCRIPTION	DD/MM/YY	Drawing number
4	Removed Seismic logo (optional)	18/05/22	
3	Revised text	22/07/21	GPD-TD700 /E
2	Revised IN3	22/05/19	CDL

Built to the latest edition of the NFPA 20 standard

Louver Connection









REV.	DESCRIPTION	DD/MM/YY	Drawing number
2	Removed Seismic logo (optional)	18/05/22	
1	Revised logo	18/06/18	GPD-TD701 /E
0	First issue	10/11/16	