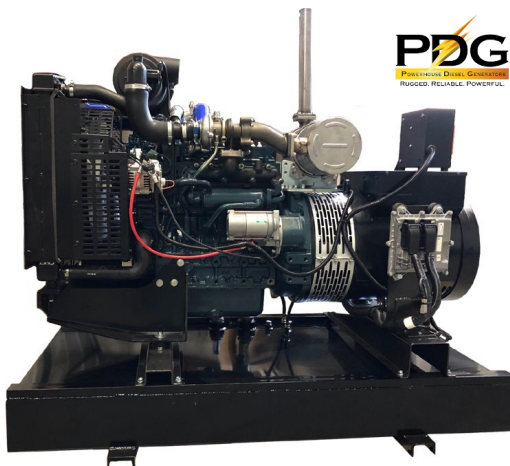
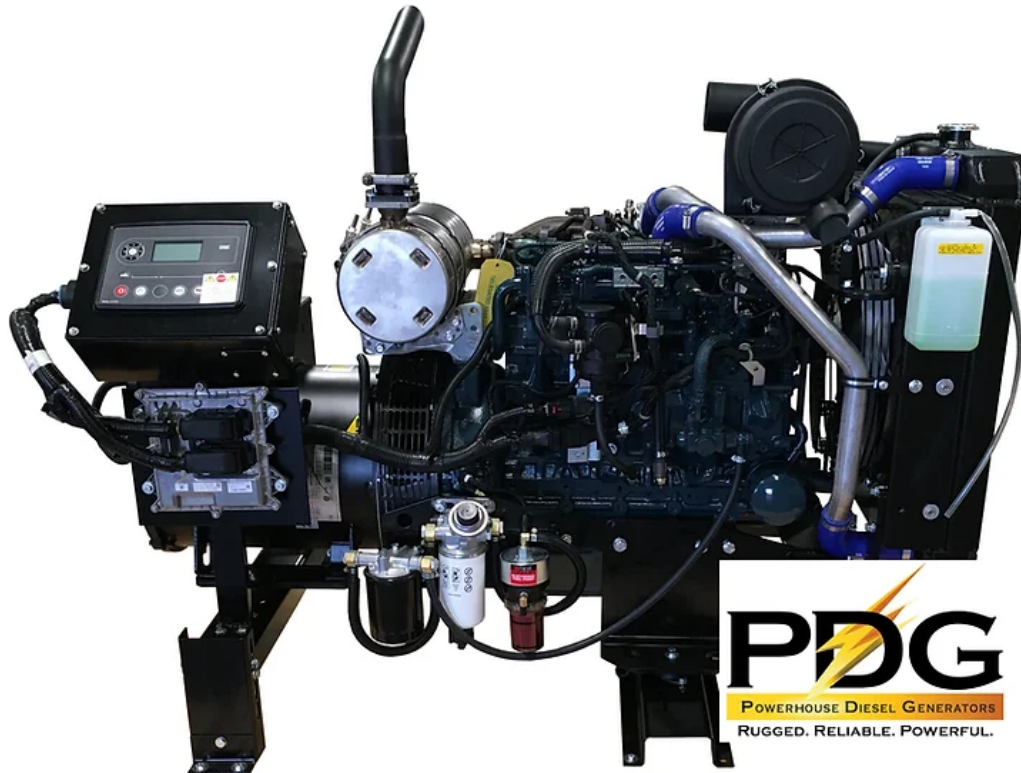




RUGGED. RELIABLE. POWERFUL.

RUGGED SERIES 25 - 30 KWE TIER 4



Shown with optional base fuel tank



Shown with optional enclosure and base fuel tank

POWERHOUSE DIESEL GENERATORS
RUGGED. RELIABLE. POWERFUL.

INDUSTRIAL DIESEL ENGINE

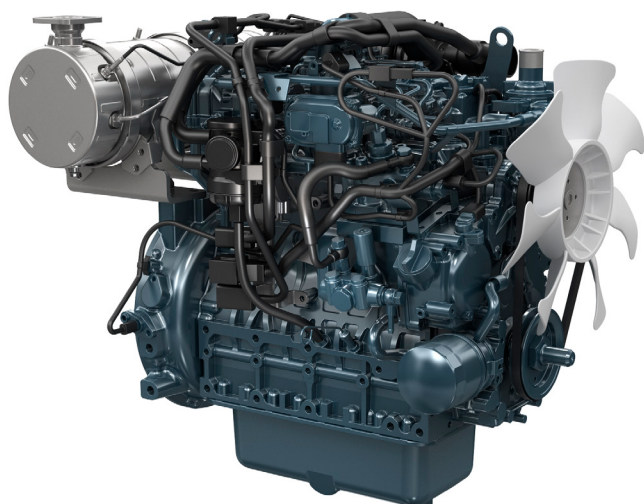
Kubota 03 Series (4-Cylinder)

V2403-CR-T-E4B



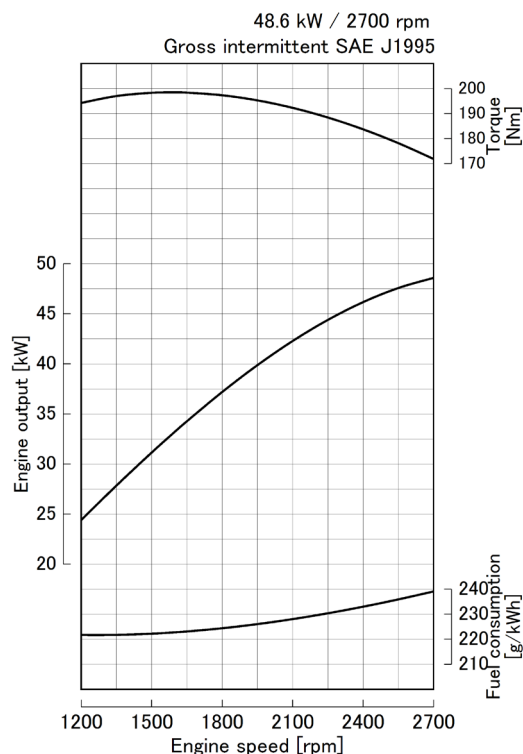
Rated Power

48.6 kW @ 2700 rpm



Photograph may show non-standard equipment.

Performance Curves



Features and Benefits

Proven Reliability and Technology

The latest technology and strong performance—two things customers expect from Kubota engines. We continue to provide both of these through the pursuit of excellence in three key areas: emissions compliance, progress towards fully electronic-controlled engines, and flexibility in the products and services we provide to customers worldwide.

Clean and Quiet Power

A common rail system has made it possible to optimize combustion and create a more durable and quieter engine with higher fuel efficiency. This engine model is available with Diesel Particulate Filter (DPF) + DOC aftertreatment.

Emissions Compliance

Meeting rigid emissions regulations can be a challenge for any company. Our Kubota 03 Series engines have been designed to comply with stringent regulations: EPA / CARB Tier 4 + EU Stage IIIB. In addition, innovative emissions solutions, such as the use of aftertreatment units, have also been integrated into the 03 Series engines.

Flexibility

Flexibility is a must when working with customers in different countries who have different engine needs. Since Kubota 03 Series engines have evolved along every step in meeting the requirements of each EPA Tier, we are able to provide our customers worldwide with engines certified for the appropriate emissions regulations. In addition, we have designed aftertreatment units with minimum impact for easy installation.

Trust

The Kubota 03 Series is the ideal solution for your company's global marketing strategy. We continuously strive to meet your needs with the experience and expertise that is your due.

For Earth, For Life
Kubota

V2403-CR-T-E4B

Engine Specifications

Engine model		V2403-CR-T-E4B
Emission regulation		EPA/CARB Tier 4 + EU Stage IIIB
Type		Vertical, water cooled 4-cycle diesel engine
Cylinders		4
Bore and stroke	mm (in)	87.0 x 102.4 (3.43 x 4.031)
Displacement	L (cu.in)	2.434 (148.5)
Aspiration		Turbocharged
Aftertreatment		DOC + DPF
Rated output / speed *1	kW (HP) / rpm	48.6 (65.2) / 2700
Maximum torque / speed *1	Nm (lb-ft) / rpm	198.5 (146.4) /1600
Combustion system		Direct injection
Fuel system		Common rail system
Length x Width x Height *2 (without aftertreatment unit)	mm (in)	646 x 540 x 735 (25.4 x 21.3 x 28.9)
Length x Width x Height *3 (with aftertreatment unit)	mm (in)	842 x 540 x 735 (33.1 x 21.3 x 28.9)
Dry weight *3	kg (lbs)	233 (514)

Specifications are subject to change without notice.

DOC: Diesel Oxidation Catalyst

DPF: Diesel Particulate Filter

Dimensions and dry weight are according to Kubota's standard specification.

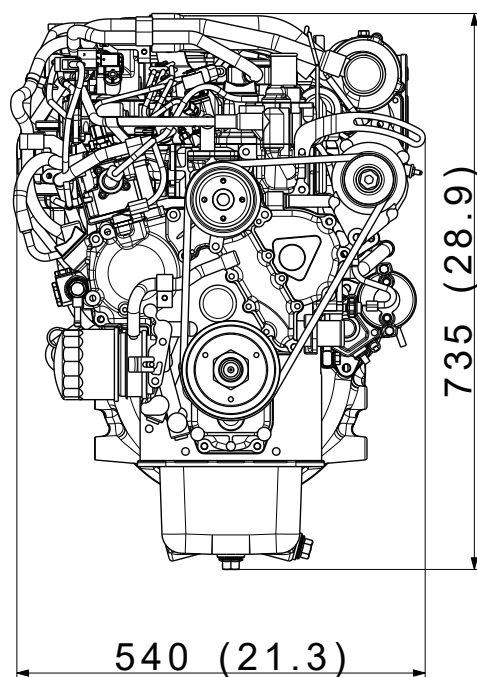
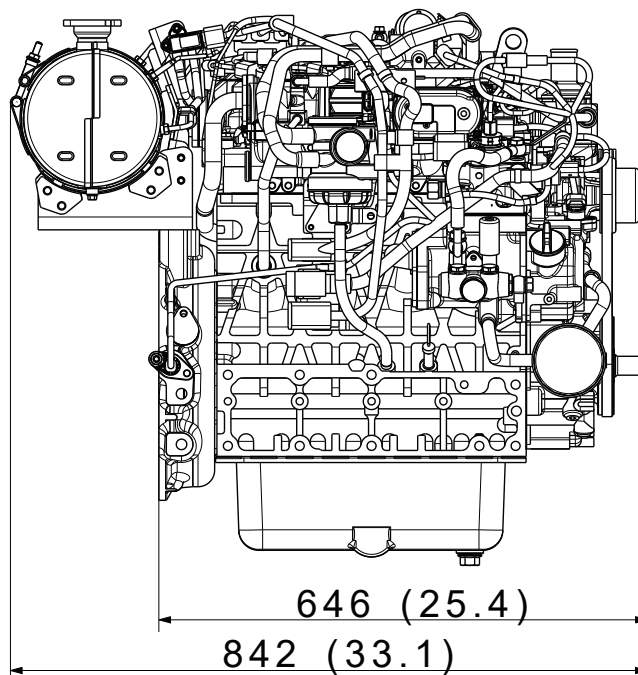
Dimensions and weight depend on completed specifications.

*1: SAE J1995 gross intermittent

*2: Exclude cooling fan and exclude aftertreatment unit

*3: Exclude cooling fan and include aftertreatment unit on engine

Dimensions



Kubota Corporation

2-47, Shikitsuhigashi 1-chome Naniwa-ku, Osaka, 556-8601 Japan

<https://global.engine.kubota.co.jp/en/>

ASP-V2403-CR-T-E4B1808-R1-I

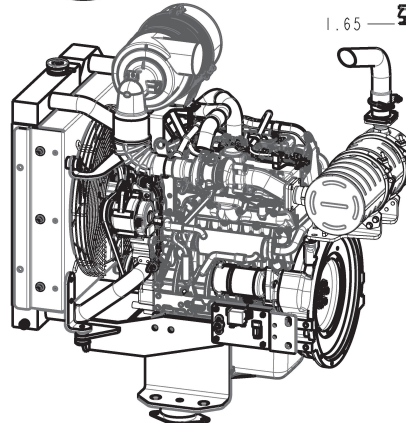
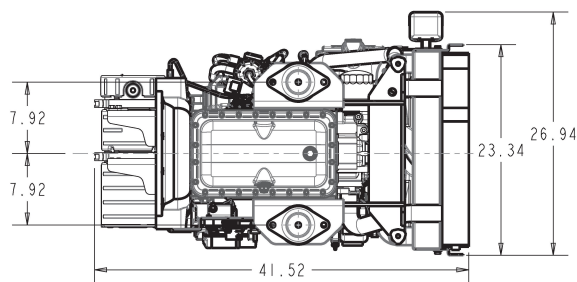
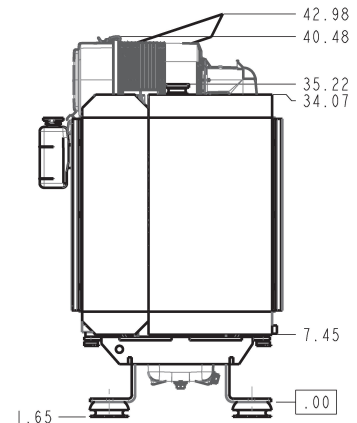
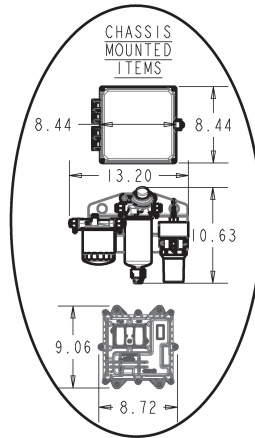
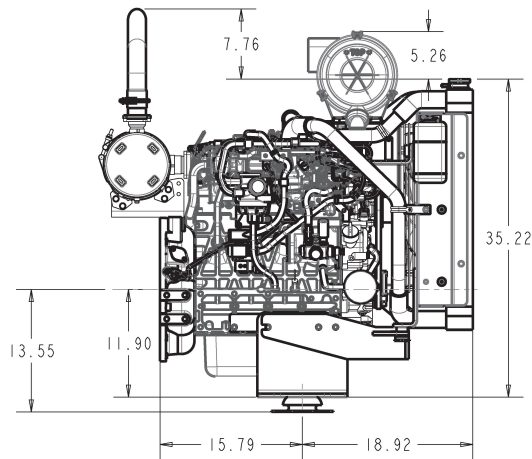
V2403TI-BG

SCALE: 0.075

Sheet 1 of 2

BECAUSE WE ARE CONTINUOUSLY IMPROVING
OUR PRODUCTS AND SERVICES,
PDG RESERVES THE RIGHT TO CHANGE
SPECIFICATIONS WITHOUT PRIOR NOTICE

V2403TI CONSTANT SPEED
1800 RPM, 60 Hz ONLY
ENGINE: V2403-CR-TIE4BG
EMISSION TIER: TIER 4 FINAL
FUEL CONSUMPTION: 0.376 LB/HP-HR
REF. SAE J1349:
ENGINE STANDBY POWER: 45.1 HP
ENGINE CONTINUOUS POWER: 41.0 HP



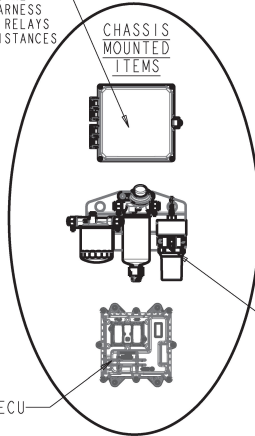
V2403TI-BG

SCALE: 0.075

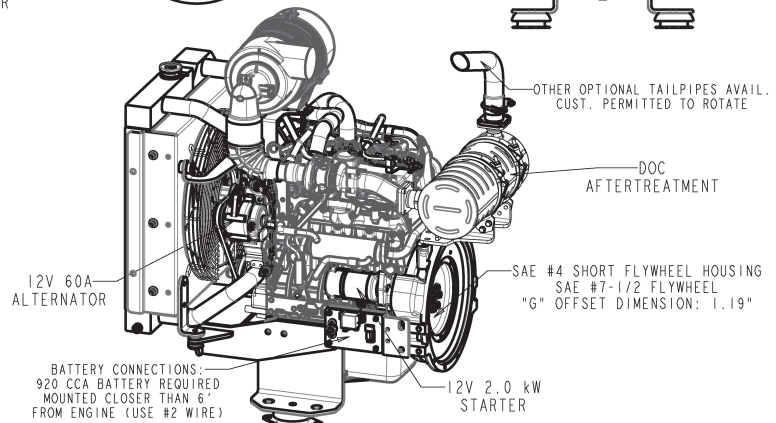
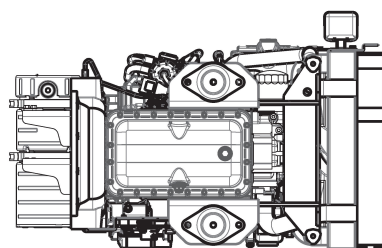
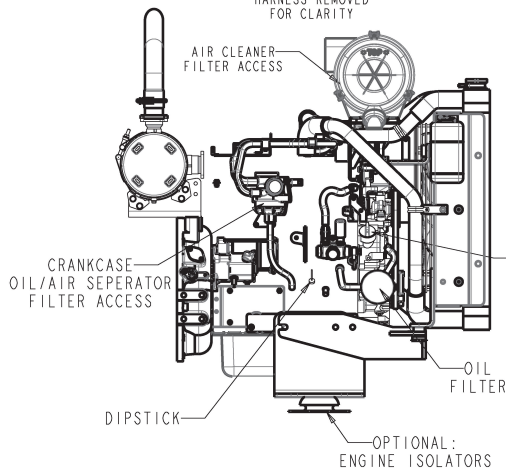
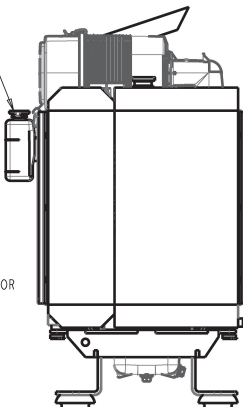
Sheet 2 of 2

NOTE: THIS VIEW HAS
ENGINE BLOCK & WIRE
HARNESS REMOVED
FOR CLARITY

CONTROL PANEL:
MOUNTED WITHIN
6" OF ENGINE
OPTIONAL HARNESS
EXTENSION & RELAYS
FOR LONGER DISTANCES



COOLANT
OVERFLOW
BOTTLE



V2403TI CONSTANT SPEED
1800 RPM, 60 Hz ONLY
ENGINE: V2403-CR-TIE4BG
EMISSION TIER: TIER 4 FINAL
FUEL CONSUMPTION: 0.376 LB/HP-HR
REF. SAE J1349:
ENGINE STANDBY POWER: 45.1 HP
ENGINE CONTINUOUS POWER: 41.0 HP



PDG INDUSTRIAL ALTERNATORS



PDG Industrial 184G - 30 kW 3 Phase PF .8 – 30 kW / 1 Phase PF .8 – 20 kW 1 Phase PF 1.0 – 30 kW

1800 rpm single bearing
Self exciting - Brushless, Synchronous.
1 phase 60 Hz 120/240
3 Phase 60 Hz 120/208, 120/240, or 277/480

100% PURE AMERICAN ESSEX® COPPER

2/3 Pitch Copper Windings are double dipped for extreme environment durability, providing the smooth, clean power needed for sensitive electronics as well as the raw power required for heavy motor applications.

PDG Industrial alternators are designed and built to withstand extreme conditions. They conform to IEC 34-1/34-2, BS 4999/5000 and IS: 4722-2001. The enclosure rating is IP 23 with Class H insulation, satisfying IEC 34-5/IS: 4691/DIN VDE 0530-5 requirements. They are dynamically balanced, brushless, and screen protected. They are self-excited and self-regulated through an AS440 AVR.

Our alternators have the following features:

1. +- 1.0 % Voltage regulation (max.) in static conditions
2. IP: 23 protections with Insulation class H
3. Permissible overload of 10% for one hour in 12 hours of operation.
4. Excitation boost system (EBS) for unparalleled motor starting capability.

3-PHASE CLASS H TEMPERATURE-RISE (125°C)										1-PHASE CLASS H TEMPERATURE-RISE (125°C)					
VOLTAGE		50HZ 1500RPM				60HZ 1800RPM				50HZ 1500RPM			60HZ 1800RPM		
STAR-SERIES		380	400	415	440	416	440	460	480 600	220	230	240	220	230	240
STAR-PARALLEL		190	200	208	220	208	220	230	240 300	110	115	120	110	115	120
Δ-SERIES		220	230	240	254	240	254	266	277 346						
184G	Rated Capacity(KVA)	31.3	31.3	31.3	31.3	35	37.5	37.5	37.5 37.5	21	21	21	25	25	25
	Rated Power(KW)	25	25	25	25	28	30	30	30 30	16.8	16.8	16.8	20	20	20
	Efficiency(%)	86.6	87	87.3	87.6	86.7	87	87.3	87.6 87.8	83.7	83.9	83.9	83	83	83.8
	Input power(KW)	28.9	28.8	28.7	28.6	32.3	34.5	34.4	34.2 34.2	20.1	20	20	24.1	24.1	23.9

*Chart is based on PF .8

Our generators have been designed for use in a maximum ambient temperature of 104°F/40°C and altitude less than 3280'/1000M above sea level.

Engine requirements: 45 HP Diesel / 60 HP Gasoline

PDG Industrial Alternator Warranty

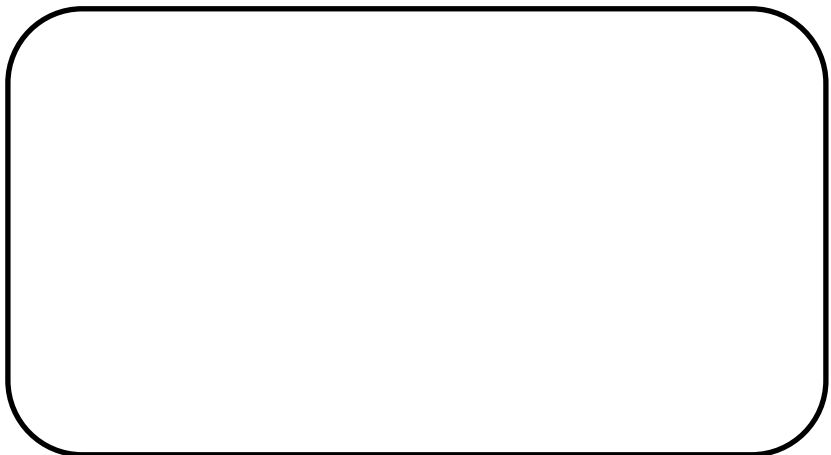
Prime - 36 Months Prorated / Unlimited Hours

Standby – 60 Months Prorated / 2500 Hours (500 Hours max per year)

Complete warranty available upon request



Ask your local PDG Authorized Dealer about availability!



PwrNano AMF 5



Controller for single gen-set applications

Datasheet

Product description

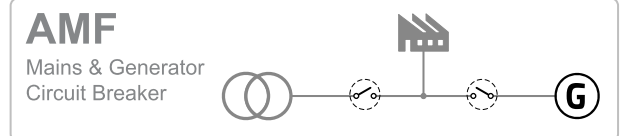
- > Single Gen-set controller for stand-by and prime-power applications
- > All-in-one intuitive and powerful PC tool for configuration, monitoring and control, locally or remotely
- > Easy to install, configure, use and monitor

Key features

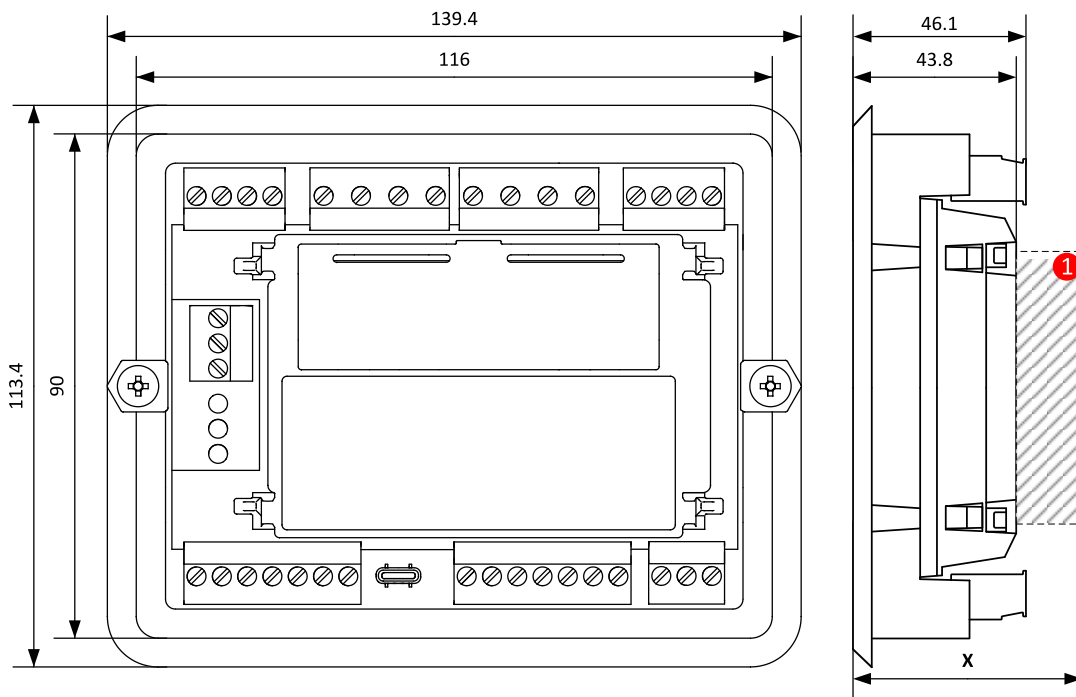
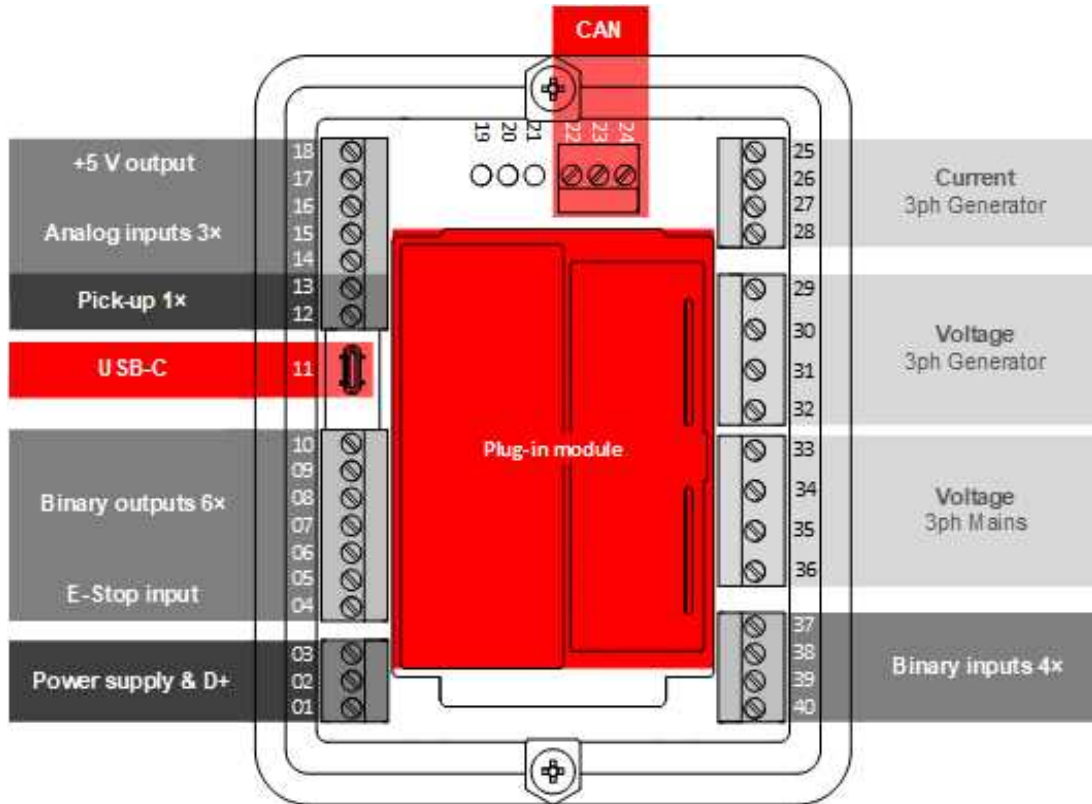
- > Stand-by and prime-power application in one unit
- > Auto Mains Failure application functionality
- > Manual (or) Remote Start/Stop application functionality
- > Large graphic monochromatic backlit LCD display with contrast adjustment
- > Full 3-phase current and voltage measurement
- > 6 binary outputs, 4 + 1 binary inputs, 3 analog inputs (2x R + 1x R/U/I)
- > +5V output reference for analog inputs
- > Emergency Stop functionality (E-Stop)
- > Slot for extension plug-in module (Modbus, Internet)
- > ECU support (Tier 4 Final, Stage V)
- > Real Time Clock with battery backup (full calendar)
- > Power over USB-C for controller configuration and firmware update
- > Low power mode
- > True RMS measurement
- > Remote monitoring support (AirGate 2.0, WSV, IntelliScada)
- > Individually calibrated and checked
- > Internet access using Ethernet/4G-GPS plug-in module, Modbus RTU

- > Geo-fencing using 4G-GPS plug-in module
- > Detailed history log with up to 100 records
- > User setpoints and protections
- > Two languages in the controller
- > Translator functionality
- > User Access Management
- > Cyber security improvement
- > Multi-purpose schedulers and timer
- > Maintenance timer
- > Modbus register mapping possibility
- > Cut-out: 118 × 92 mm
- > Low Noise EMC design

Application overview



Dimensions, terminals and mounting



Note: ① The final depth "X" of the controller depends on the selected plug-in module – it can vary between 43.8 mm and 62 mm. Mind also the size of connectors and cables (e.g. in case of RS232 connector, add about 60 mm more for standard RS232 connector and cable).

Note: The controller is to be mounted into panel doors as a standalone unit using provided holders. The requested cutout size is 118 × 92 mm. Use the screw holders delivered with the controller to fix the controller into the door.

Technical data

Power supply

Power supply range	8-36 VDC
Power consumption (without modules)	2 W
RTC battery	Replaceable (3 V)
Fusing power	2 A w/o BOUT consumption
E-Stop fusing	10 A
Max. power dissipation	5.5 W

Operating conditions

Protection degree (front panel)	IP50 , IP65 with optional gasket seal
Operating temperature	-20 °C to +70 °C
Max. operating altitude	2000 m above sea level
Storage temperature	-30 °C to +80 °C
Operating humidity	95 % non-condensing (EN 60068-2-30)
Vibration	5-25 Hz, ± 1.6 mm 25-100 Hz, $a = 400$ m/s ²
Shocks	$a = 500$ m/s ²
Surrounding air temperature rating 70 °C Suitable for pollution degree 2	

D+

Max. output current	250 mA
---------------------	--------

Linear measurement and protection range

Measurement inputs	3ph-n Gen, 3ph-n Mains
Measurement range	10-277 V AC* / 10-480 V AC (EU) 10-346 V AC* / 10-600 V AC (US/Canada)
Max measured voltage	350 V AC Ph-N 660 V AC Ph-Ph
Accuracy	2 %
Frequency range	5-80 Hz guaranteed meas range 30-70 Hz (accuracy 0.1 Hz)
Input impedance	0.72 M Ω ph-ph , 0.36 M Ω ph-n

Note: *) Maximum effective voltage on the voltage terminals must be lower than 300 V against minus battery voltage and for overvoltage CAT III or lower.

Display

Type	Graphical backlit monochromatic 3.2"
Resolution	132 × 64 px

Communications

USB Device	USB-C
CAN	Non-isolated, 250 / 50 kbps, Terminator impedance 120 Ω Fixed Internal Terminator

Current measurement

Measurement inputs	3ph Gen current
Measurement range	/1A or /5A
Max. allowed current	10 A
Accuracy	± 30 mA for 0-2 A; 2 % of value for 2-5 A
Input impedance	<0.1 Ω

E-Stop

Dedicated terminal for safe E-Stop input.
Physical supply for binary outputs 1 & 2.

Binary inputs

Number	4
Close/Open indication	0-2 VDC close contact 6-36 VDC open contact

Binary outputs

Number	6
Max. current	BO1,2=5 A (60 °C); BO3-6=0.5 A
Switching to	positive supply terminal

Analog inputs

Number	1x switchable (R/U/I) 2x R
Range	R = 0-2500 Ω ; U = 0-10 V; I = 0-20 mA
Accuracy	R: ± 3 % ± 7 Ω in range 0-250 Ω R: ± 6 % in range 250-2500 Ω U: ± 1.5 % ± 150 mV I: ± 1.5 % ± 0.3 mA

+5 V Power supply output

Max. current	25 mA
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Magnetic pickup

Voltage input range	4 Vpk-pk to 50 Vpk-pk in range 4 Hz to 1 kHz 6 Vpk-pk to 50 Vpk-pk in range 1 to 5 kHz 10 Vpk-pk to 50 Vpk-pk in range 5 to 10 kHz
Frequency input range	4 Hz to 10 kHz
Frequency measurement tolerance	0.2 % from measured value

Available accessories

Product	Description	
Gasket IN2	Additional gasket for IntelliNano AMF controllers, protection degree IP65 (front panel)	

Available plug-in modules

Product	Description	Order code
CM-RS232-485	Dual port (RS232 & RS485) plug-in communication module	
CM2-4G-GPS	4G & GPS plug-in communication module	
CM3-Ethernet	Internet / Ethernet plug-in communication module for AirGate connection only	

Note: Controller has one slot for plug-in modules.

Note: Plug-in module is supported on controller hardware version HW 2.0 or higher.

Functions and protections

Support of functions and protections as defined by ANSI (American National Standards Institute):

Description	ANSI code	Description	ANSI code
Master unit	1	Current unbalance	46
Stopping device	5	Negative sequence voltage	47
Multifunction device	11	Incomplete sequence relay	48
Underspeed	14	Overcurrent	50/50TD
Overspeed	12	Breaker failure	50BF
Starting-to-running transition contactor	19	Overvoltage	59
Thermal relay	26	Aux Over Voltage	59X
Undervoltage	27	Pressure switch	63
Aux Battery Under Voltage	27X	Liquid level switch	71
Annunciator	30	Reclosing relay	79
Overload (real power)	32P	Overfrequency	81O
Reverse Power	32R	Underfrequency	81U
Master sequence device	34	Auto selective control/transfer	83

Certifications and standards

> EN 61000-6-2 > EN 61000-6-4 > EN 61010-1 > EN 60068-2-1 (-20 °C/16 h) > EN 60068-2-2 (70 °C/16 h)	> EN 60068-2-6 (2+25 Hz / ±1,6 mm; 25+100 Hz / 40 m/s²) > EN 60068-2-27 (a=500 m/s²; T=6 ms) > EN 60068-2-30:2005 25/55°C, RH 95%, 48hours > EN 60529 (front panel IP50, front panel IP65 with gasket, back side IP20) > UL 6200		
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Enclosures Available



PDG Enclosures are made with Aluminum and are coated with industrial grade synthetic powder coat for maximum durability . All fasteners, hinges, hardware are stainless steel.



Fuel Tank Options Available



Custom D.O.T. and UL Tanks For all Applications

D.O.T Trailered Portable Packages
contact for quote



Standard Enclosure Color is PDG Tan. Additional Colors are Available Upon Request

POWERHOUSE DIESEL GENERATORS
RUGGED. RELIABLE. POWERFUL.