AMF CONTROL PANEL CIRCUIT DIAGRAM PDF

THE BE2K PLUS AMF CONTROLLER

You can set parameters to start/stop the engine according to a combination of mains failure, battery auto start, and air conditioner. The concept is to run the generator only when necessary with the final goal of fuel economy. Be2K-Plus features separated and isolated RS485, RS232, and CANbus. You can connect the Be2k-Plus via TCP-IP and/or GSM. The specification of this controller is stunning. The Be2k-Plus includes, from a hardware point of view, 3 automotive-grade microcontrollers.

This is without of doubt the most compact and powerful AMF controller on the market today. It is designed for Telecom applications and can work in extreme climatic conditions of temperature and humidity. Each AMF control panel for the DG set includes an automatic battery charger and a set of electronic circuit boards complete with power relays that interface directly with the engine. The Be2K Plus AMF controller is conveniently tasked with driving the Circuit breakers of the Mains & Generator. Even though the power configuration and general arrangement are the same for all AMF panels equipped with Be2k Plus, the size of the circuit breakers and wire sizes depend on the required power rating of the panel and the requirements of the application.

Ancillary devices are normally provided, for example, MODBUS & CANbus serial interface, remote control, monitoring systems, Modems, Internet connection, and so on. The Electric Panel body is manufactured of steel and coated with industrial-grade high-performance paint providing a full IP65 grade of protection. Using the Bernini Design AMF Control Panel For DG Set you move to the top of the Standby Technology.

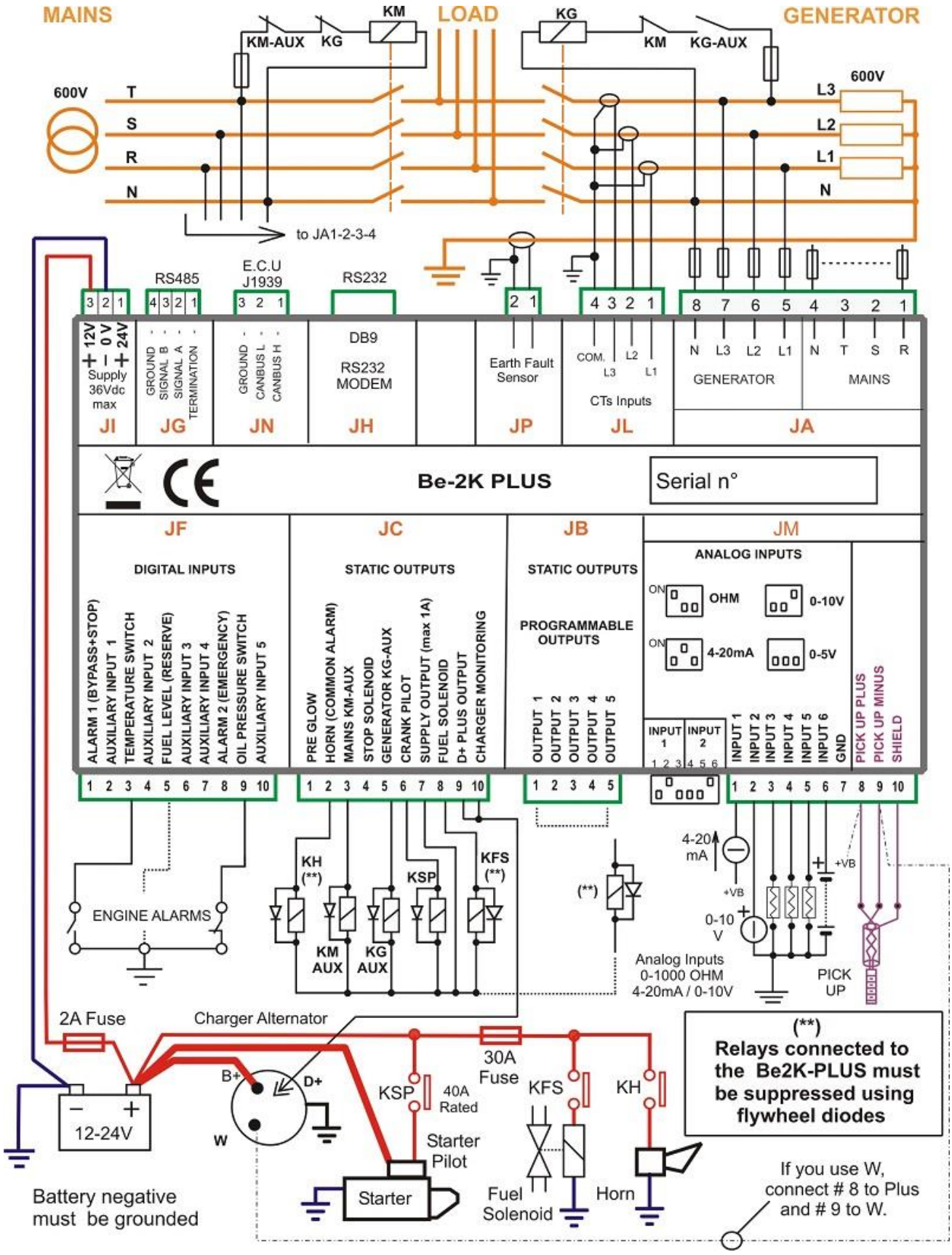
Bernini Design started writing software for standby generators in 1984. In 30 years we introduced to the market 500,000 microcontroller-based AMF systems. Controllers made in 1984 are still working. This makes Bernini Design an absolute leader in AMF & ATS controller manufacturing.

THE WIRING DIAGRAM

The Be2K Plus AMF controller interfaces with all kinds of engines, with or without ECU. In case you have a CANBS J1939 compatible engine, the Be2K-Plus offer a suitable menu for the choice of the engine manufacturer. The CAN BUS port is fully isolated. To interface a standard engine, without ECU, you must install automotive relays. A removable 10-pole connector JC supports all necessary outputs needed to control the engine. You can find additional auxiliary outputs available on the connector JB. All outputs of the AMF controller are via static NPN transistors.

The outputs are short-circuit proof. The recommended output current is about 200mA.On the connectors JF and JM you can connect digital and analogue inputs suitable for your applications, The AMF controller offers a rich set of settings. On the connector JM you can connect a pickup and a variety of sensors and analogue transmitters. You can configure the inputs to adapt the controller to your application, The connectors JA, JP and JL are reserved for the generator monitoring, We recommend that you wire suitable fuses to protect the wires in case of a short circuit.

In making a complete AMF panel you must add contactors or motorizes switches changeover, terminal blocks, current transformers and additiona equipment requied from your customer.


MAINS
LOAD
GENERATOR
KM
KG
KM-AUX
KG
KG
KM
KG-AUX
600V
T
S
R
N
L3
L2
L1
N
600V
to JA1-2-3-4
RS485
E.C.U J1939
RS232
3 2 1
4 3 2 1
3 2 1
2 1
4 3 2 1
8 7 6 5 4 3 2 1
+ 12V
0 V
– 24V
+
Supply 36Vdc max
GROUND
SIGNAL B
SIGNAL A
TERMINATION
GROUND
CANBUS L
CANBUS H
DB9
RS232 MODEM
Earth Fault Sensor
COM.
L3
L2
L1
CTs Inputs
N L3 L2 L1
GENERATOR
N T S R
MAINS
JI
JG
JN
JH
JP
JL
JA
Be-2K PLUS
Serial n°
JF
JC
JB
JM
DIGITAL INPUTS
ALARM 1 (BYPASS+STOP)
AUXILIARY INPUT 1
TEMPERATURE SWITCH
AUXILIARY INPUT 2
FUEL LEVEL (RESERVE)
AUXILIARY INPUT 3
AUXILIARY INPUT 4
ALARM 2 (EMERGENCY)
OIL PRESSURE SWITCH
AUXILIARY INPUT 5
STATIC OUTPUTS
PRE GLOW
HORN (COMMON ALARM)
MAINS KM-AUX
STOP SOLENOID
GENERATOR KG-AUX
CRANK PILOT
SUPPLY OUTPUT (max 1A)
FUEL SOLENOID
D+ PLUS OUTPUT
CHARGER MONITORING
STATIC OUTPUTS
PROGRAMMABLE OUTPUTS
OUTPUT 1
OUTPUT 2
OUTPUT 3
OUTPUT 4
OUTPUT 5
ANALOG INPUTS
ON
OHM
0-10V
4-20mA
0-5V
INPUT 1
INPUT 2
1 2 3 4 5 6
INPUT 1
INPUT 2
INPUT 3
INPUT 4
INPUT 5
INPUT 6
GND
PICK UP PLUS
PICK UP MINUS
SHIELD
1 2 3 4 5 6 7 8 9 10
1 2 3 4 5 6 7 8 9 10
1 2 3 4 5
1 2 3 4 5 6 7 8 9 10
ENGINE ALARMS
KH (**)
KM AUX
KG AUX
KSP
KFS (**)
(**)
4-20 mA
+VB
0-10 V
+VB
Analog Inputs 0-1000 OHM 4-20mA / 0-10V
PICK UP
2A Fuse
Charger Alternator
B+
D+
W
12-24V
KSP
40A Rated
Starter Pilot
Starter
30A Fuse
KFS
Fuel Solenoid
KH
Horn
(**)
Relays connected to the Be2K-PLUS must be suppressed using flywheel diodes
If you use W, connect # 8 to Plus and # 9 to W.
Battery negative must be grounded

BE2K-PLUS KEY FEATURES

- Indicates kVA, kVAr, kW, PF, Aac, Vac, Hz, kWh-meter & h-meter
- Indicates all Engine parameters and monitors the Ambient Temperature
- 32 Options for each programmable input & 79 Options for each Output
- Earth fault monitoring and Reverse Power, controls motorized Switchgears
- High-quality manufacturing, 72-hour dynamic burn-in, 3-Year warranty
- Ideal for AMF ATS Dual-Genset standby applications for Industry & Telecom
- RS485, CAN-BUS J1939, RS232, TCP-IP protocol, interfaces with Modem
- 200 Events Log history tagged by a Real-Time Clock
- Monitoring of Vdc sources for Telecom & Renewable Energy Applications
- 12-digit Led-Display and 128x64 Graphic (-30°/+70°) OLED Display

YOU CAN FIND ADDITION INFORMATION ON THE FOLLOWING LINKS

https://ats-panels.com/amf-panels/

LIST OF THE TUTORIALS

https://ats-panels.com/