01 / Identity and interface role

GENERAL ELECTRIC

531X133PRUALG1

Process Interface Board

Process and tachometer interface

General Electric 531X133PRUALG1 is a process interface board in the 531X133PRU family, providing signal conditioning and adjustment for drive process and tachometer interfaces.

Tachometer
Speed feedback

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PRU design
Conditioning and scaling

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Drive control
Configured inputs

Function group	Design controls
Analog feedback	SW1 range selection and P1 TACH SCALE
Process follower	P4 PF GAIN and P5 PF OFF
Setpoint input	P6 STP SCALE
Speed feedback zero	P7 SFB ZERO

Identity boundary

The complete offered reference is 531X133PRUALG1. Retain the full suffix when comparing an installed board. A family-level functional match alone does not establish replacement approval.

02 / Signal architecture

Separate the signal paths

Analog feedback, process-follower input and serial signalling have different configuration controls. Identify the connected source before changing a jumper or potentiometer.

Interface	Purpose	Configuration context
Analog tachometer	Speed feedback conditioning	SW1 coarse range and AC/DC selection; P1 trim
Process follower	Condition the process reference	Gain and offset plus selected loop range
STPRF	Definable input test point	Function comes from drive elementary drawings
SMET	Analog speed-meter output	P2 adjustment; not available with digital tachometer feedback
Serial channel	Receive, transmit and handshake	RS-232C or RS-422 selection must match the connected equipment

Input type matters

The PRU digital tachometer design has separate signal-type, doubling and quadrature selections. These configuration functions do not assign a universal setting to every installed drive.

03 / Adjustment functions

Control	Purpose	Engineering relationship
SW1	Coarse analog tachometer range	Coordinate range and AC/DC mode with P1
P1 TACH SCALE	Analog feedback trim	Calibrate to the installed drive speed-feedback requirement
P2 SMET	Analog speed-meter scaling	Does not create an output for digital tachometer feedback
P3 DVM TRIM	Optional Programmer DVM trim	Use the +5 V reference and 5.00 indication in the GE procedure
P4 / P5	Follower gain / offset	Review connected transducer range before calibration
P6 STP SCALE	Definable input scaling	Use the site elementary drawings and engineering notes
P7 SFB ZERO	Speed-feedback zero trim	Check zero with the appropriate zero-feedback condition

Configuration record

Record the actual board revision and configuration alongside the drive identity. Do not treat a nearby part number or another machine configuration as an approved calibration source.

04 / Revision and configuration decisions

Identify
Complete board marking

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Compare
Drive drawings and inputs

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Validate
Approved setup and operation

Tachometer return-path review

GE distinguishes the single-ended digital tachometer return arrangement for AJ-and-earlier and AK-and-later PRU designs. Review both signal and complementary-input return paths before a revision change. Use the applicable drive procedure for terminal-level work.

Question	Design consequence
Analog or digital tachometer?	Select the appropriate processing arrangement; digital feedback does not provide SMET.
RS-232C or RS-422?	Coordinate receive, transmit and handshake electrical modes.
Follower range changed?	Review range selection, gain and offset together.
Different PRU revision?	Review hardware and return wiring; family identity is not interchangeability.

Acceptance record

Keep the final configuration, measured response and installed drive identity with the maintenance record. Obtain manufacturer guidance for a revision or application change.

05 / Engineering notes and portfolio

How should the setpoint input be identified?

P6 adjusts the definable input associated with the STPRF test point. Its application is established by the drive elementary drawings and engineering notes, so the function is checked against the installed configuration.

Is this an Ethernet interface?

The documented serial interface uses jumper-selected RS-232C or RS-422 electrical signalling. These selections are not Ethernet interfaces; receiver, transmitter and handshake settings must agree.

Reference basis

GE DC-300 Adjustable Speed Drives, GEK-85766B; original GE 531X133PRUALG1 board identification. PRU design functions are summarized separately from application settings and replacement approval.

Document identity

Apter Power engineering summary. This document is not a GE-issued manual and does not replace the installed drive drawings or the applicable manufacturer service procedure.

Explore related GE control boards

Product navigation only; these links do not establish compatibility or substitution.

- **General Electric 531X304IBDANG1 F31X304IBDAMG1**
- **General Electric 531X307LTBAJG1**
- **General Electric 531X111PSHAPG3**

Discuss your installed configuration

Send the complete marking, drive identity and relevant connection details.

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