Power Supply Products

EtherCAT Digital Interface Option Added to the New and Advanced Programmable DC Power Supply Series

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TDK Corporation announces the introduction of the optional **EtherCAT** Digital Communication Interface to the *GENESYS™* Programmable DC Power Supply Series.

This Digital Interface option is available on all the *GENESYS™* Programmable DC Power Supply platforms, is suitable for the automation technology environment and allows the user to remotely program, measure and check status of the Power Supply using the **EtherCAT** (CANopen over EtherCAT) protocol.

The addition of the **EtherCAT** Interface adds to the already available optional interfaces that include the **IEEE** (488.2 & SCPI compliant) and **Modbus-TCP** Digital Communication Interfaces, along with the *three* built-in standard Digital interfaces (**LAN** (*LXI* 1.5), **USB** (2.0) and **RS-232/RS-485)**.

Other built-in interfaces include the Remote Isolated Analog or Front Panel (Local) Interfaces. When either interface is active, the **EtherCAT** Interface is still allowed to monitor and set protection levels for the Power Supply. In addition, the Front Panel (Local) mode allows the user to view the unit MAC address, perform an **EtherCAT** Interface reset, identify Remote operation by viewing the **REM** indicator and select/de-select the optional interface using the **OPT** setting.

The 2-port **EtherCAT** Interface which has two shielded Ethernet RJ-45 connectors and allows the connection of multiple **EtherCAT** power supplies in a daisy-chain configuration without a network switch. Each Power Supply provides its own Module status (RUN/ERROR LED pairs) which indicates the **EtherCAT** device state and errors and Link/Activity LED's to identify cable connection, connection state and packet flow operating conditions.

The **EtherCAT** Interface has the ability to communicate over an EtherCAT network using CoE (CANopen over EtherCAT while preserving all digital remote programming and monitor accuracies. Its data structure utilizes four different data types (char, unit16, unt32 and float) and supports two types of Read/Write operations (Read Single SDO / PDO or Write single SDO / PDO). Each command (SDO/PDO) has a specified data range and size and many standard SDO/PDO commands/queries supported along with many commands/queries that have unique functionality. A software utility is available for download to establish communication between the user and a *GENESYS™* Power Supply.

For a view of the *GENESYS™* **EtherCAT** Interface specifications, please click here (https://www.us.tdk-lambda.com/hp/product_html/genplush1u1_5.htm) and download a copy of the **EtherCAT** Interface User's Manual.

Major Applications

- Industrial Ethernet environments (eg. Automation Technology)

Major Specifications

EtherCAT Interface Features	Description
Electrical	**Ethernet**: meets IEEE 802.3 specs **Auto-MDIX**: accepts straight "patch" or "crossover" cable **Auto-Negotiate**: selects 100Base-T (Full-Duplex)
Network Configuration	**MAC Address**: EtherCAT has unique MAC Address **EtherCAT reset**: reset capability in case of unknown communication failure
Communication	Over EtherCAT network (CoE)
EtherCAT Protocols	CoE (CANopen over EtherCAT)
Data Types	char, unit16, unit32, float
Commands	EtherCAT PDO/SDO (EtherCAT packets follow Transmission Control Protocol (TCP))
Software Utilities	EtherCAT Slave Information File (XML) Available on website (Software Drivers)
Configurations	Front Panel (Local), EtherCAT Remote, LAN, USB, RS-232/RS-485, or Remote Isolated Analog
Front Panel Capabilities	View MAC Address, EtherCAT Interface reset, REM indicator (for Remote mode), set Interface with **OPT** setting
Rear Panel Capabilities	Dual shielded RJ-45connector Module Status LED's, Link & Activity LED
Power Supply Specs	Power Supply ratings and accuracies are the same as for Digital Remote Program/Monitor using the LAN, USB or RS-232/RS-485
Compliance	Same conformances as a standard *GENESYS*™ Power Supply (UL, IEC, TUV, CE Mark, RoHS, etc.)

About The *GENESYS*™ **Programmable DC Power Supply Series**

Currently offered in *1U Half-Rack* **1.5kW**, *1U Full-Rack* **1.7kW**, **2.7kW, 3.4kW** and **5kW**, *2U Full-Rack* **10kW** and *3U Full-Rack* **15kW,** the *GENESYS*™ Series has advanced performance and functionality well suited for Design, Test and Measurement within the Laboratory/R&D environment and addresses broad market segments including Automotive, Aerospace, Semiconductor, Industrial and Renewable/Alternative Energy.

All platforms offer Output voltages from 10V to 600V with different AC input options that have built-in Active Power Factor Correction (0.99 typical for single-phase and 0.94 typical for three-phase) with high conversion efficiencies (up to 90% or greater) and cooling fan speed control (for reduced audible noise and extended life).

Advanced features and functions include an *Arbitrary Waveform Generator* (with Auto-Trigger capability), programmable *Slew-Rate Control* (Vout/Iout), *Internal Resistance Simulation* and *Constant-Power Limit* programming, which are accessible through a front panel LCD display that has five embedded multi-functional Power Supply Setup menus (that address Digital Communication, Protective Functions, Operating Configuration, System Configuration, and System Triggering).

Multiple built-in standard remote programming methods are available including the built-in Remote Isolated Analog Program/Monitor (5V/10V) & Control and Remote Digital Serial Communication Interfaces (LAN (LXI 1.5), USB (2.0) and RS-232/RS-485) along with the optional IEEE (IEEE 488.2 & SCPI compliant), Modbus-TCP and EtherCAT Interfaces.

Power systems of up to four units in parallel utilize on-board *Auto-Configuring* technology for easy system setup and provide dynamic response and Output voltage ripple/noise characteristics comparable to that of a single unit.

All platforms of the *GENESYS*™ Power Supply Series carry a five (5) year warranty, have Safety Agency approvals to IEC/EN/UL/cUL 60950-1 and carry the **CE** mark in accordance with the Low Voltage, EMC (IEC/EN61204-3; industrial environment) and RoHS Directives.

For more information about the TDK-Lambda *GENESYS*™ AC/DC Programmable Power Supply Series, please visit the TDK-Lambda Americas Programmable & High Voltage website at https://us.tdk-lambda.com/hp/product_html/low_volt.htm

Also available is the complementary Cost-Effective General-Purpose *Genesys*™ AC/DC Programmable Power Supply Series and a wide range of other TDK-Lambda Americas Programmable & High Voltage power supplies which can be viewed from the Programmable & High Voltage website at https://us.tdk-lambda.com/hp/.

About TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's portfolio features passive components such as ceramic, aluminium electrolytic and film capacitors, and magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in the areas of information and communication technology and automotive, industrial and consumer electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2019, TDK posted total sales of USD 12.5 billion and employed about 105,000 people worldwide.

About TDK-Lambda Corporation

TDK-Lambda Corporation, a group company of TDK Corporation, is a leading global power supply company providing highly reliable power supplies for industrial equipment worldwide. TDK-Lambda Corporation meets the various needs of customers with our entire range of activities, from research and development through to manufacturing, sales, and service with bases in five key areas, covering Japan, Europe, America, China, and Asia.

For more details, please pay a visit to https://www.tdk-lambda.com/

Contacts for Regional Media

Region	Contact		Phone	Mail
Americas	Tom Goodman	Product Manager Low Voltage Products	+1.732.795.4100, x4148	tom.goodman@us.tdk-lambda.com