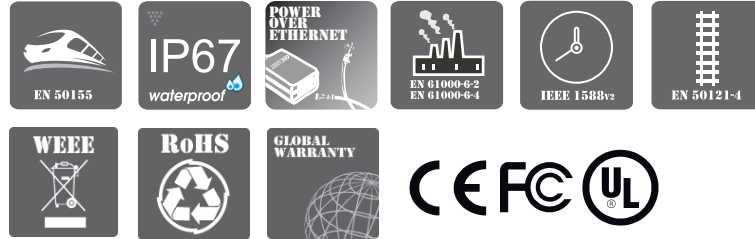


WMG-821GEPAT



Introduction

Overview

WMG-821GEPAT は、EN 50155, EN 50121-4, UL 60950-1 の要求に準拠しており、鉄道・線路沿や、鉄道車両、車両等の輸送業界でのセキュアな通信用途向けにデザインされています。WMG-821GEPAT は、Industrial 8ポートの10/100/1000Base-T(X) M12 UTP、2ポートの10/100/1000Base-T(X) M12 UTP 及び 8PoEインジェクタポートのPoE給電機能(PSE)を持ち合わせ、さらに広域温度モデル (-40 to 80°C)をもサポートしております。IP67レートにより、ダスト・湿気・油や水の浸入に対する耐性を持っています。搭載されるM12コネクタにより水密を保持し、振動や衝撃等の悪環境下でも確実なコネクションを実現します。安全性のために、PoE/PoE+ に対応し接続されたPDを安定させるため、55VDCでのPoE出力を24/48VDC冗長電源入力と内蔵パワーブースターにより調整しています。Ethernet Direct社の Industrial PoE製品は、接続されたPoEデバイスに対して最大180ワットのPoE電力を供給できるIEEE 802.3af / 802.3at規格をサポートしています。

WMG-821GEPATは、最新のEthernet機能である STP/RSTP/MSTP/ ITU-T G.8032 ERPS・multiple Direct-Ring for redundant cabling・IGMP・VLAN・QoS・Security・IPv6・bandwidth control・port mirroring・cable diagnostic・IEEE802.3az EEE (Energy Efficient Ethernet) (マネジメント ヴィ オプティマイズド パワー コンサンプション)をサポートしております。メンテナンスコストを削減するために、高度なPoEマネジメント (オートテスト&オートリセットPD、スケジューリング) とリモートケーブル診断の検出機能を提供します。Ethernet Direct社のEN 50155 switchは、オートバイパス機能搭載によりデジチェーン・リアトポロジーネットワーク下での突然の電力損失に備えます。もし、列車内のswitchにパワーダウンが発生した場合にバイパスリレーにより自動的に内部回路からバックアップされ、隣の機器とのリンクを保持します。この機能により、各端末からバックボーン・さらに上の層のネットワークへの100%安全な通信が保証されます。さらにEN 50155 認証により入力電圧・サージ・EFT・ESD・振動衝撃についても保護されています。

Features

High Performance Network Switching Technology

- Complies with IEEE standards
- Provides 8 x 10/100/1000Base-T(X) with M12 connector (8-pin, female, A-Coded) and supporting of Green Ethernet IEEE802.3az EEE (Energy Efficient Ethernet) function
- Provides 2 x 10/100/1000Base-T(X) with M12 connector (8-pin, female, A-Coded) and supporting bypass function
- Supports various network redundant solutions, including Direct-Ring, Direct-Chain, Join-Ring, STP, RSTP, MSTP and ITU-T G.8032
- Proprietary ultra high speed redundant technology with < 10ms recovery time @ 250 devices
- Supports IEEE1588 PTP V2 for precise time synchronization, to operate in Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave mode by each port
- Supports various network security solutions, Port and MAC based IEEE802.1X, RADIUS, ACL, TACACS+, HTTP/HTTPS, SSL/SSH v2
- Supports DHCP Server/Client/Relay/Snooping/Snooping option 82/Relay option 82
- Network traffic priority, QoS, Traffic classification QoS, CoS, bandwidth control for Ingress/Egress, broadcast storm control, DiffServ
- Supports IEEE802.1Q VLAN, MAC-based VLAN, IP Subnet-based VLAN, Protocol-based VLAN, VLAN translation, GVRP/MVRP

- Supports IGMP/MLD snooping V1/V2/V3, IGMP Filtering/Throttling, IGMP query, IGMP proxy reporting, MLD snooping
- Supports dynamic IEEE 802.3ad LACP Link Aggregation, Static Link Aggregation
- Supports RMON, MIB II, Port mirroring, Syslog, IEEE802.1ab LLDP for network monitoring
- Supports IPv6 Telnet server, ICMPv6
- Supports CLI, Web based management, SNMP v1/v2c/v3, Telnet server for management
- Supports firmware upgrade via TFTP & HTTP with redundant firmware option

Reliable Power Design

- Supports 24/48VDC redundant power input with IP67 M23 connector
- Power reverse polarity protection and overload current protection
- Built-in high efficiency power booster to cater for the PoE/PoE+ requirement

Robust Industrial Design

- EN 50155 certified for Railway Applications and IEC 61373 test passed for vibration and shock resistant
- EN 50121-4 certified for Railway Applications (Track Side)
- EN 61000-6-2 and EN 61000-6-4 certified to use in heavy industrial environment
- Robust industrial design case complies with IP67 housing standard
- Supports operating temperature -40 to 80°C
- Wall mount or optional DIN-Rail mounting installation

Specifications

Hardware Specifications

Interface

Total Ports: 10 ports

M12 Ports: 8 x 10/100/1000Base-T(X) M12 connector (8-pin, female, A-Coded) and 2 x 10/100/1000Base-T(X) M12 connector (8-pin, female, A-Coded), auto-negotiation speed, Full/Half duplex, auto MDI/MDI-X

PoE Ports: 8 x M12 connector (8-pin, female, A-Coded), Supports IEEE 802.3af/IEEE 802.3at End-Span, Alternative A mode

Console Port: RS-232, M12 connector (5-pin, male, A-Coded)

LEDs: System: Power 1 (Green), Power 2 (Green), Fault (Amber), CPU Act (Green), Ring Master (Amber)

M12 Ports: 10/100 Link/Active (Green), 1000 Link/Active (Amber)

M12 Ports (PoE): Output Power On (Green), Fault (Green flash 1 time per second), Output Power Off (Green Off)

Alarm Contact: 1A@24VDC, M12 connector (5-pin, male, A-Coded)

CPU Watchdog: Supported

Power Requirements

Power Input: 24/48VDC (20 to 57VDC), M23 (5-pin, male), redundant dual inputs

Power Consumption:

24VDC: 200.4 (Full load with PoE), 11.7W (Without PoE), Booster Efficiency 95.60%

48VDC: 200.2 (Full load with PoE), 12.5W (Without PoE), Booster Efficiency 95.90%

PoE Power Budget: Max. 180W for total PD consumption

Built-in high efficiency power booster to boots up and regulate the output power at 55VDC for PoE/PoE+ requirement, and to stabilize the PDs with guarantee deliver of PoE power up to 100 meters

Power Protection: Reverse polarity protection, overload current protection

Physical

Dimensions: IP67 standard, 240mm (W) x 168mm (H) x 70mm (D)

Installation: Wall mount or optional DIN-Rail mounting

Environmental

Operating Temperature: -40 to 80°C

Storage Temperature: -40 to 85°C

Operating Humidity: 5% to 95% RH (Non-condensing)

Technical

Standard:

IEEE 802.3 10Base-T Ethernet

IEEE 802.3u 100Base-TX/100Base-FX

IEEE 802.3ab 1000Base-T

IEEE 802.3af PoE

IEEE 802.3at PoE+

IEEE 802.3x Flow Control

IEEE 802.3ad Port trunk with LACP

IEEE 802.3ac VLAN Tagging extension (Max. frame size extended to 1522 Bytes)

IEEE 802.3az EEE (Energy Efficient Ethernet)

IEEE 802.1D Spanning Tree