Ethernet Direct Product Guide

Edition 1.0 2006

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DIRECT

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About Us

Welcome to Ethernet Direct.com !

Ethernet Direct sells quality products, designed specifically for the industrial marketplace, at the lowest possible cost.

The company is modeled after successful commercial equipment suppliers such as Dell Computers, who offer direct web purchases that can provide the consumer with greater value. By eliminating unnecessary intermediate handling and reducing sales channel costs, we can deliver superior products at prices significantly below the competition.

Our products are manufactured in state of the art, contract manufacturing facilities that produce other well known switches. Outsourced manufacturing means additional reduced overhead costs and improved quality.

Why buy from Ethernet Direct?

Our Experience
You can be confident in your purchase since you will be dealing directly with individuals specialized in Industrial Ethernet and not a distributor carrying everything from push buttons to power plants. Our dedicated staff   has years of practical experience and applied knowledge in the implementation of Industrial solutions using Ethernet technology.

Manufacturing and Quality
Ethernet Direct is more than just the best prices on the market; it's also about the best products. This is achieved by focusing also on manufacturing and quality. For more details on our manufacturing and quality processes, please visit our website.

Extended Warranty & Money Back Guarantee*

Ethernet Direct products are the highest quality products with specifications superior to many of our competitors. We stand behind this quality by providing extended 5 year warrantees. Our products have better operating temperature ranges than most industrial Ethernet equipment, which helps enable longer life. Ethernet Direct is confident that you will be satisfied with your purchase, so much that we offer a 30 day money back guarantee*.

Ease of Ordering, 24 x 7

If you have been purchasing your Ethernet equipment from other suppliers, we provide easy to use cross reference charts to assist you in finding the comparable Ethernet Direct model. Our shopping cart allows you to place your order over the web or have a quote delivered via email instantly. Why wait for a salesperson or contact a distributor's help line only to get someone responsible for 100 different products. Our web site has been constructed to make your ordering experience the best it can be, at any hour of the day, 365 days a year.

Knowledgeable Support Staff and Educational Resources

Unlike other online ordering systems that provide only products, Ethernet Direct provides our customers with product support and Application training. You can chat with us online or email us if there are any questions not answered by our user friendly web site.

ETHERNET DIRECT

The Direct Way to Industrial Ethernet

When you purchase from Ethernet Direct, you will become a member of ED and have access to our *EDucational Series* of video training sessions. From generic Ethernet technologies such as Subnet masks, VLANs, and IGMP to guidance on network architectures, the EDucational Series videos will keep you aware of the technologies required for Industrial Ethernet deployment. Whether you are using standard Ethernet protocols or working with EtherNet/IP, PROFInet, or Foundation Fieldbus HSE, Ethernet Direct provides our clients with up to date and very valuable information to help insure safe and secure applications. Videos provide more information and better explanations than standard written text guides.

Browse our site www.ethernetdirect.com and start saving today by ordering your industrial Ethernet equipment from Ethernet Direct!

* Product proven not to meet any published specification.

ETHERNET DIRECT

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EthernetDirect
product range

Non-Managed
Industrial Switches

SNMP Managed
Industrial Switch

SNMP Managed
Industrial Gigabit Switch

Non-Managed Industrial
Media Converter

Din Rail Power Supply

EthernetDirect
delivers
high quality
product
at very
competitive
prices, backed
by the the
best pre- and
post-sales
support.

EthernetDirect –
The Industrial Ethernet Specialists

Non-Managed Industrial Switches

HUE-411	-10 to 70 deg C	HUE-411E	-40 to 80 deg C
Features four 10/100Base-TX ports and one 100Base-FX port (SC, Multimode, 2km)			
HUE-413	-10 to 70 deg C	HUE-413E	-40 to 80 deg C
Features four 10/100Base-TX ports and one 100Base-FX port (SC, Single Mode, 30km)			
HUE-500	-10 to 70 deg C	HUE-500E	-40 to 80 deg C
5x 10/100Base-TX ports			
HUE-800	-10 to 70 deg C	HUE-800E	-40 to 80 deg C
8x 10/100Base-TX ports			

Four copper and one fibre port switches

Five or Eight copper port switches

Non-Managed Industrial Media Converter

RUE-111	-10 to 70 deg C	RUE-111E	-40 to 80 deg C
Non-Managed Industrial 10/100Mbps Ethernet to Fibre Converter (SC, Multimode, 2km)			
RUE-113	-10 to 70 deg C	RUE-113E	-40 to 80 deg C
Non-Managed Industrial 10/100Mbps Ethernet to Fibre Converter (SC, Single Mode, 30km)			

Copper to fibre converters

Din Rail Power Supply

DR4512	9-264VAC and 120-370VDC input
DIN Rail 45 Watt 12VDC at 3.5A output	
DR4524	9-264VAC and 120-370VDC input
DIN Rail 45 Watt 24VDC at 2A output	

Ask about our full range of DIN Rail power supplies. Available from 30 Watts to 960 Watts. A range of wall mount (A3112 plug) and desktop (IEC-C14 receptacle) power supplies is also available.

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SNMP Managed Industrial Switch

HME-621	-10 to 70 deg C	HME-621E	-40 to 80 deg C
SNMP Managed Industrial Switch 6x 10/100Base-TX ports and 2x 100Base-FX ports (SC, Multimode, 2km)			
HME-623	-10 to 70 deg C	HME-623E	-40 to 80 deg C
SNMP Managed Industrial Switch 6x 10/100Base-TX ports and 2x 100Base-FX ports (SC, Single Mode, 30km)			
HME-800	-10 to 70 deg C	HME-800E	-40 to 80 deg C
SNMP Managed Industrial Switch 8x 10/100Base-TX ports			
HME-821			-10 to 70 deg C
SNMP Managed Industrial Switch 8x 10/100Base-TX ports and 2x 100Base-FX ports (SC, Multimode, 2km)			
HME-823			
SNMP Managed Industrial Switch 8x 10/100Base-TX ports and 2x 100Base-FX ports (SC, Single Mode, 30km)			

Six copper and two fibre port switches

Eight copper and two fibre port switches

SNMP Managed Industrial Gigabit Switch

HMG-628G	-40 to 80 deg C
SNMP Managed Industrial Switch 6x 10/100Base-TX ports and 2 paired Gigabit Copper/SFP Ports	
HMG-825	-40 to 80 deg C
SNMP Managed Industrial Switch 8x 10/100Base-TX ports and 2x 1000Base-SX ports (SC, Multimode, 1310nm, 550m)	
HMG-826	-40 to 80 deg C
SNMP Managed Industrial Switch 8x 10/100Base-TX ports and 2x 1000Base-LX ports (SC, Single Mode, 1310nm, 10km)	
HMG-828	-40 to 80 deg C
SNMP Managed Industrial Switch 8x 10/100Base-TX ports and 2 paired Gigabit Copper/SFP Ports	

Six or Eight copper 10/100 ports and 2 gigabit fibre or paired gigabit copper/fibre ports

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Unmanaged Switches

	HUE-500 HUE500E	HUE-800 HUE-800E	HUE-411 HUE-411E	HUE-413 HUE-413E
Number of Ports: 10/100Base-TX	5	8	4	4
Number of Fiber ports – FX Multimode 2km SC connector	✗	✗	1	✗
Number of Fiber ports – FX Single mode 30km SC connector	✗	✗	✗	1
Full/Half Duplex, Auto-negotiation, MDI/MDI-X on TX ports	✔	✔	✔	✔
Rigid Aluminum Case	✔	✔	✔	✔
12-48 VDC Power Input	✔	✔	✔	✔
Redundant DC Power Inputs	✔	✔	✔	✔
Fault Relay Output	✔	✔	✔	✔
Operating Temperature: -10C to 70C	✔	✔	✔	✔
Operating Temperature: -40C to 80C	E Version	E Version	E Version	E Version
IP 31 Protection	✔	✔	✔	✔
Regulatory Approvals: CE/ FCC / cUL, UL	✔	✔	✔	✔
Class 1, Div 2 pending	✔	✔	✔	✔
DIN-Rail & wall mount Kit	✔	✔	✔	✔
MTBF 315,000 + hours	✔	✔	✔	✔
5 year Global warranty	✔	✔	✔	✔

5 year global warranty on all products

EthernetDirect is so confident in the quality of its line of industrial products that we confidently offer a 5 year warranty on all products

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The Direct Way to Industrial Ethernet

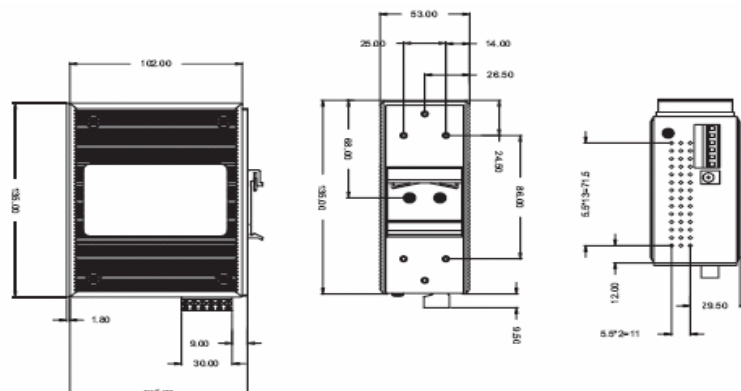| **Husky**	**Unmanaged Ethernet Series**
	HUE-500 / HUE-500E (5TX)

Overview

The Husky Industrial Ethernet Switch is a cost effective industrially hardened Ethernet switch specifically designed to operate reliably in electrically harsh, demanding environments and in hazardous locations.

The switch provides a high level of immunity to electromagnetic interference and power supply surges typically found in industrial plant environments.

In order to meet the redundancy requirements in an industrial device, HUE-500 series is equipped with a terminal block to provide dual power inputs with reverse polarity protection. The HUE-500 or 500E provides an integrated power supply with a wide range of voltages (12 to 48V DC) for worldwide operability.

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3x Flow Control and Back-pressure
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward

Performance

Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	1K
Memory Buffer	512KBytes
Back-plane	1.0 Gbps
Packet throughput ability	0.74Mbps@64bytes (5TX)

Interface

Diagnostic LED	Per port : Link/Activity (Green), Full duplex/Collision (Green)
	Per unit: Power 2 (Green), Power 1 (Green), Power (Green)
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable
	EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable
	EIA/TIA-568 100-ohm (100m)

Power

Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Power Consumption	2.8 Watts

Mechanical

Case Dimensions (WxHxD)	IP 30 standard, 54 mm (W) x 135 mm (H) x 105 mm (D)
Installation	Provide DIN rail kit and wall mount plate for 3-way installation

Environmental

Operating Temperature	-10 deg C to 70 deg C E version -40 to 80 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)

Regulatory Approvals

Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)

Ordering Information

HUE-500   : Husky Industrial entry level 5-port Ethernet Switch (-10 to 70 deg C operating temperature)

HUE-500E : Husky Industrial entry level 5-port Ethernet Switch (-40 to 80 deg C operating temperature)
            (Made to order)

The Direct Way to Industrial Ethernet

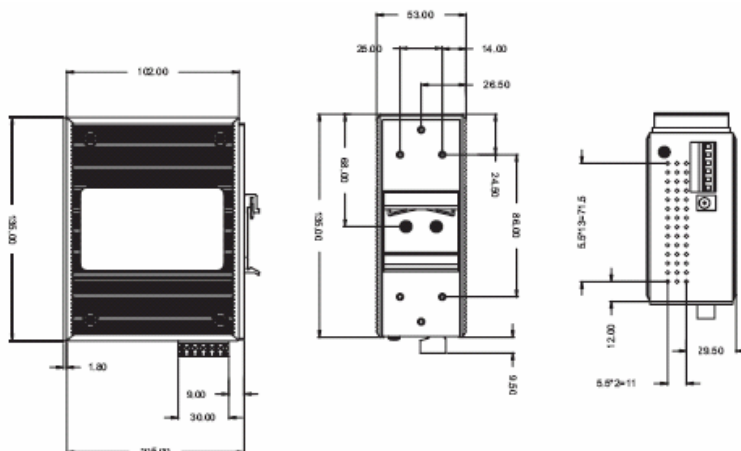| **Husky** | **Unmanaged Ethernet Series** |
| | **HUE-800 / HUE-800E   (8TX)** |

Overview

The Husky Industrial Ethernet Switch is a cost effective industrially hardened Ethernet switch specifically designed to operate reliably in electrically harsh, demanding environments and in hazardous locations.

The switch provides a high level of immunity to electromagnetic interference and power supply surges typically found in industrial plant environments.

In order to meet redundancy requirements in an industrial device, HUE-800 series is equipped with a terminal block to provide dual power inputs with reverse polarity protection. Husky provides an integrated power supply with a wide range of voltages (12 to 48V DC) for worldwide operability.

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3x Flow Control and Back-pressure
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward

Performance

Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	2K
Memory Buffer	1MBytes
Back-plane	1.6 Gbps
Packet throughput ability	1.19Mpps @64bytes (8TX)

Interface

Diagnostic LED	Per port : Link/Activity (Green), Full duplex/Collision (Green)
	Per unit: Power 2 (Green), Power 1 (Green), Power (Green)
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable
	EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable
	EIA/TIA-568 100-ohm (100m)

Power

Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Power Consumption	2.8 Watts

Mechanical

Case Dimensions (WxHxD)	IP 30 standard, 54 mm (W) x 135 mm (H) x 105 mm (D)
Installation	Provide DIN rail kit and wall mount plate for 3-way installation

Environmental

Operating Temperature	-10 deg C to 70 deg C E version -40 deg C to 80 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)

Regulatory Approvals

Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)

Ordering Information

HUE-800   : Husky Industrial entry level 8-port Ethernet Switch (-10 to 70 deg C operating temperature)

HUE-800E : Husky Industrial entry level 8-port Ethernet Switch (-40 to 80 deg C operating temperature)
          (Made to order)

![ETHERNET DIRECT logo]

The Direct Way to Industrial Ethernet

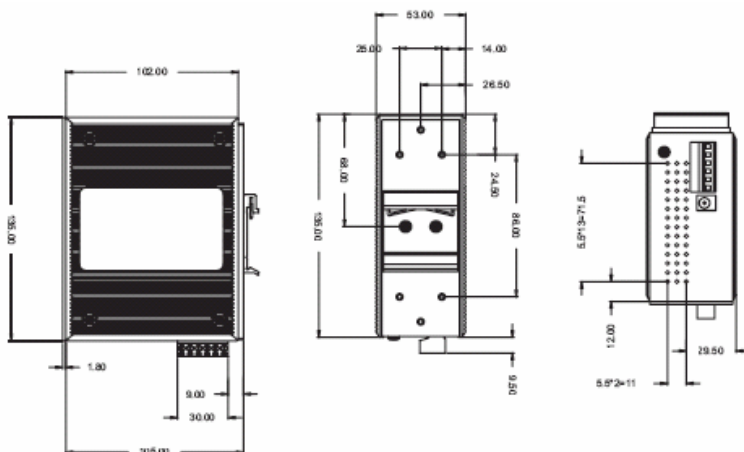| **Husky**	**Unmanaged Ethernet Series**
	HUE-411/411E (4TX + 1FX-MM)
	HUE-413/413E (4TX + 1FX-SM)

Overview

The Husky Industrial Ethernet Switch is a cost effective industrially hardened Ethernet switch specifically designed to operate reliably in electrically harsh, demanding environments and in hazardous locations.

The switch provides a high level of immunity to electromagnetic interference and power supply surges typically found In industrial plant environments.

The unmanaged HUE-411 and HUE-413 series comes with your selection of either a Multimode or a single mode fiber port. In order to meet redundancy requirement in an industrial device, HUE-411 and HUE-413 series is equipped with redundant power inputs and failure alarm by relay output.

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3x Flow Control and Back-pressure
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward

Performance

Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	1K
Memory Buffer	512KBytes
Back-plane	1.0 Gbps
Packet throughput ability	0.74Mbps@64bytes (5TX)

Interface

Diagnostic LED	Per port : Link/Activity (Green), Full duplex/Collision (Green)
	Per unit: Power x 3 (Green)
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable
	EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable
	EIA/TIA-568 100-ohm (100m)
Optical cable	SC (Multi Mode) : 50/125um to 62.5/125um HUE-411/411E
	SC (Single Mode) : 9/125um to 10/125um HUE-413/413E
Distance & wavelength	Multi Mode : Distance 2 km, Wavelength 1310nm
	Single Mode : Distance 30 km, Wavelength 1310nm

Power

Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	2.8 Watts

Mechanical

Case Dimensions (WxHxD)	IP 30 standard, 54 mm (W) x 135 mm (H) x 105 mm (D)
Installation	Provide DIN rail kit and wall mount plate for 3-way installation

Environmental

Operating Temperature	-10 deg C to 70 deg C E version -40 to 80 Degrees C operation temperature
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)

Regulatory Approvals

Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)

Ordering Information

HUE-411   :   Husky Industrial entry level 5-port Ethernet Switch with one Multimode fiber port
(-10 to 70 deg C operating temperature)
HUE-411E :   Husky Industrial entry level 5-port Ethernet Switch with one Multimode fiber port
(-40 to 80 deg C operating temperature – made to order)
HUE-413   :   Husky Industrial entry level 5-port Ethernet Switch with one Single mode fiber port
(-10 to 70 deg C operating temperature)
HUE-413E :   Husky Industrial entry level 5-port Ethernet Switch with one Single mode fiber port
(-40 to 80 deg C operating temperature – made to order)

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Managed Switches

	HME-800 HME-800E	HME-621 HME-621E	HME-623 HME623E
Number of Ports: 10/100Base-TX	8	6	6
Number of Ports:100Base-FX	0	2	2
Multi Mode Fiber	✘	✔	✘
Single Mode Fiber	✘	✘	✔
Rigid Aluminum Case	✔	✔	✔
12-48 VDC Power Input	✔	✔	✔
Redundant DC Power Inputs	✔	✔	✔
AC/DC Power Plug Input	✔	✔	✔
Operating Temperature: -10C to 70C	✔	✔	✔
Operating Temperature: -40C to 85C	E version	E version	E version
IP 31 Protection	✔	✔	✔
Fault Relay Output	✔	✔	✔
Web based Configuration	✔	✔	✔
Redundancy - **X Ring**, RSTP	✔	✔	✔
IGMP Snooping	✔	✔	✔
Port based VLAN and IEEE802.1Q Tag VLAN	✔	✔	✔
Quality of Service	✔	✔	✔
SNMP V1/V2C	✔	✔	✔
RMON1	✔	✔	✔
SMTP(e-mail warning)	✔	✔	✔

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SNMP Managed Switch

	HME-821	HME-823
Number of Ports: 10/100Base-TX	8	8
Number of Ports:100Base-FX	2	2
Multi Mode Fiber	✔	✘
Single Mode Fiber	✘	✔
Rigid Aluminum Case	✔	✔
12-48 VDC Power Input	✔	✔
Redundant DC Power Inputs	✔	✔
AC/DC Power Plug Input	✔	✔
Operating Temperature: -10C to 70C	✔	✔
Operating Temperature: -40C to 85C	✘	✘
IP 31 Protection	✔	✔
Fault Relay Output	✔	✔
Web based Configuration	✔	✔
Redundancy - **X Ring**, RSTP	✔	✔
IGMP Snooping	✔	✔
Port based VLAN and IEEE802.1Q Tag VLAN	✔	✔
Quality of Service	✔	✔
SNMP V1/V2C	✔	✔
RMON1	✔	✔
SMTP(e-mail warning)	✔	✔

| **Husky** | **Managed Ethernet Series** |
| | **HME-800 and HME-800E**　(both 8TX) |

Overview

The Husky managed Industrial Ethernet Switch is a highly reliable and fault-tolerant switch with powerful SNMP features required in Industrial Ethernet applications. The HME-800 series can be remotely configured by a web browser and managed by SNMP and RMON. Advanced features such as VLAN and IP security provide security functions while performance is optimized by features like QoS and IGMP snooping and querying.

The Husky managed switch supports The **X Ring** redundant ring mechanism which allows the switch to reconfigure and provide a redundant path in the network. In case any part of your network is disrupted or disconnected, the redundant feature allows a fault recovery time of less than 300ms to prevent your network from encountering an interruption or failure. Features include IGMP snooping and VLAN support.

The switch provides a high level of immunity to electromagnetic interference and power supply surges typically found in industrial plant environments..
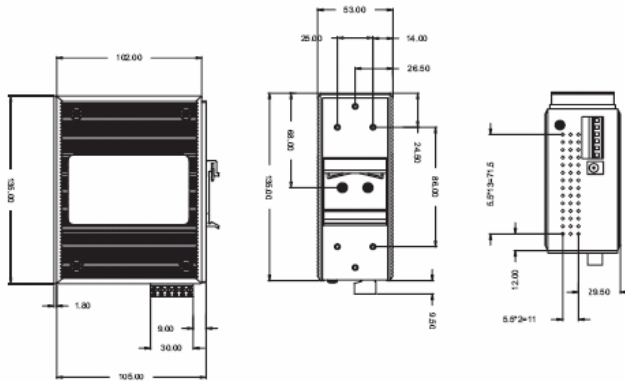
Key Features

● **Hardware Feature**

Complies with IEEE 802.3, IEEE 802.3u,IEEE 802.3X, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D, IEEE 802.1W

RJ-45 Port support auto MDI/MDI-X function

Wide-range redundant power design

Store and forward switch architecture

DIN rail and 3-way wall mount design

● **Industrial Conformance**

12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power

-10 to 70 Degree C operation temperature, E version -40 to 80 Degree C operation temperature

IP-30 standard Aluminum case

EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3x Flow Control and Back-pressure
	IEEE 802.1p Class of service
	IEEE 802.1Q VLAN
	IEEE 802.1D Spanning Tree Protocol (STP)
	IEEE 802.1W Rapid Spanning Tree Protocol (RSTP)
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward
Packet Filter	Broadcast packet filtering

Performance

Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	2K
Memory Buffer	1Mbytes
Back-plane	1.6 Gbps
Transfer packet size	64 bytes to 1522 bytes with VLAN tag

Interface

Number of Ports	8 x 10/100Base-TX
Diagnostic LED	Per port : Link/Activity (Green), Full duplex/Collision (Green)
	Per unit: Power x 3 (Green), Fault (Red), R.M. (Orange)
Alarm	Relay output for port break and power failure

Power

Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	3.5 Watts

Mechanical	
Case Dimensions (WxHxD)	IP 30 standard, 54 mm (W) x 135 mm (H) x 105 mm (D)
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-10 deg C to 70 deg C E version -40 deg C to 80 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32

Management Features

Redundancy	X Ring redundant back-up path. Recovery time less than 300ms.
Management Protocols	SNMP V1/V2c, RMON 1 (Statistics, History, Alarm, Events) SMTP, SNTP, IGMP V1 & Query mode, DHCP/Client, TFTP
MIB	MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB
Configuration	Web interface management. Default button is available to restore default settings
VLAN	Supports port-based VLAN and IEEE 802.1Q Tagged VLAN
Quality of Service	Hardware supports 4 queues per port
Port Mirroring	Online traffic monitoring on selected ports
IP Security	IP addresses are available to define access levels
E-mail warning	Pre-defined events

Ordering Information

HME-800   : Husky Industrial SNMP managed 8-port Ethernet Switch
           (-10 to 70 deg C operating temperature)
HME-800E : Husky Industrial SNMP managed 8-port Ethernet Switch
           (-40 to 80 deg C operating temperature – made to order)

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Husky	**Managed Ethernet Series**
	HME-621/621E (6TX + 2 FX MM)
	HME-623/623E (6TX + 2 FX SM)

Overview

The Husky managed Industrial Ethernet Switch is a highly reliable and fault-tolerant switch with powerful SNMP features required in Industrial Ethernet applications. HME-621 and HME-623 series can be remotely configured by a web browser and managed by SNMP and RMON. Advanced features such as VLAN and IP security provide security functions while performance is optimized by features like QoS and IGMP snooping and querying.

The Husky managed switch supports the **X Ring** redundancy which allows the switch to reconfigure and provide a redundant path in the network. In case any part of your network is disrupted or disconnected, the redundant feature allows a fault recovery time of less than 300ms to save your network from encountering an interruption or failure. E versions extend the operating temperature to -40C to 80C.

The switch provides a high level of immunity to electromagnetic interference and power supply surges typically found in industrial plant environments.

Key Features

● **Hardware Feature**

Complies with IEEE 802.3, IEEE 802.3u,IEEE 802.3X, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D, IEEE 802.1W

RJ-45 Port support auto MDI/MDI-X function

Wide-range redundant power design

Store and forward switch architecture

DIN rail and 3-way wall mount design

● **Industrial Conformance**

12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power
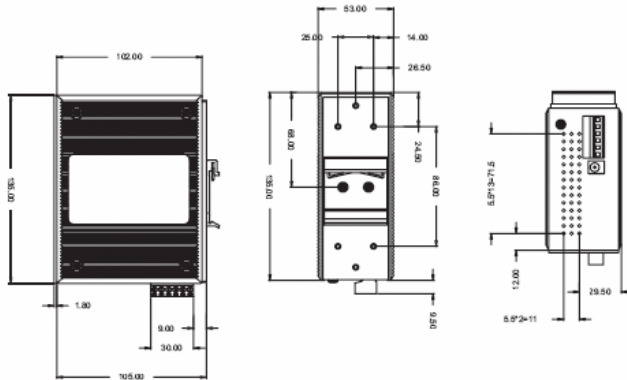
-10 to 70 Degrees C operation temperature   E version   -40 to 80 Degrees C operation temperature

IP-30 standard Aluminum case

EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3x Flow Control and Back-pressure
	IEEE 802.1p Class of service
	IEEE 802.1Q VLAN
	IEEE 802.1D Spanning Tree Protocol (STP)
	IEEE 802.1W Rapid Spanning Tree Protocol (RSTP)
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward
Packet Filter	Broadcast packet filtering

Performance

Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	2K
Memory Buffer	1Mbytes
Back-plane	1.6 Gbps
Transfer packet size	64 bytes to 1522 bytes with VLAN tag

Interface

Number of Ports	6 x 10/100Base-TX + 2 x 100Base FX HME-621/621E (6TX + 2 FX MM) HME-623/623E (6TX + 2 FX SM)
Diagnostic LED	Per port : Link/Activity (Green), Full duplex/Collision (Green)
	Per unit: Power x 3 (Green), Fault (Red), R.M. (Orange)
Optical cable	SC (Multi Mode) : 50/125um to 62.5/125um
	SC (Single Mode) : 9/125um to 10/125um
Distance & wavelength	Multi Mode : Distance 2 km, Wavelength 1310nm
	Single Mode : Distance 30 km, Wavelength 1310nm
Alarm	Relay output for port break and power failure

Power	
Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	3.5 Watts
Mechanical	
Case Dimensions (WxHxD)	IP 30 standard, 54 mm (W) x 135 mm (H) x 105 mm (D)
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-10 deg C to 70 deg C E version -40 deg C to 80 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32

Management Features

Redundancy	2 ports of the switch supports X Ring redundant back-up path. Recovery time less than 300ms. Web interface management can activate the Husky Ring.
Management Protocols	SNMP V1/V2c, RMON 1 (Statistics, History, Alarm, Events) SMTP, SNTP, IGMP V1 & Query mode, DHCP/Client, TFTP
MIB	MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB
Configuration	Web interface management Reset button is available to restore default settings
VLAN	Supports port-based VLAN and IEEE 802.1Q Tagged VLAN
Quality of Service	Hardware supports 4 queues per port
Port Mirroring	Online traffic monitoring on selected ports
IP Security	IP addresses are available to define access levels
E-mail warning	Pre-defined events

Ordering Information

HME-621   : Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port 100Base-FX Multi mode
          (-10 to 70 deg C operating temperature)

HME-621E : Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port 100Base-FX Multi mode
          (-40 to 80 deg C operating temperature – made to order)

HME-623   : Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port 100Base-FX Single mode
          (-10 to 70 deg C operating temperature)

HME-623E : Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port 100Base-FX Single mode
          (-40 to 80 deg C operating temperature – made to order)

The Direct Way to Industrial Ethernet

	Managed Ethernet Series
Husky	**HME-821** (8TX, 2 FX – MM)
	HME-823 (8TX, 2 FX – SM)

Overview

The Husky managed Industrial Ethernet Switch is an extremely powerful and highly reliable fault-tolerant switch required in Industrial Ethernet applications. HME-821 and HME-823 series can be remotely configured by a Web browser, SNMP, Telnet, CLI using menu driven management.

The Husky managed switch supports the **X Ring** self-recovery mechanism which allows the switch to reconfigure and provide a redundant path in the network. In case any part of your network is disrupted or disconnected, the redundant feature allows a fault recovery time of less than 50ms to save your network from encountering an interruption or failure.

Advanced management features, include Dual Homing and Ring Coupling, IGMP snooping and VLANs. The switch provides a high level of immunity to electromagnetic interference and power supply surges typically found in industrial plant environments.

Key Features

● **Hardware Feature**

Complies with IEEE 802.3, IEEE 802.3u,IEEE 802.3X, IEEE 802.3ad, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D, IEEE 802.1W, IEEE 802.1x

RJ-45 Port support auto MDI/MDI-X function

Wide-range redundant power design

Store and forward switch architecture

DIN rail and 3-way wall mount design
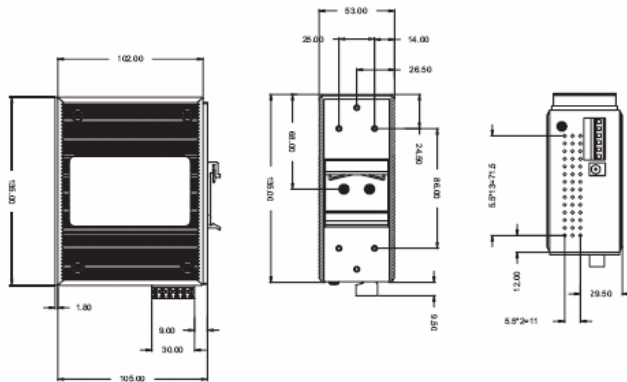
● **Industrial Conformance**

12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power

-10 to 70 Degrees C operation temperature

IP-30 standard Aluminum case

EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX/100BASE-FX IEEE802.3x Flow Control and Back Pressure IEEE802.3ad Port trunk with LACP IEEE802.1d Spanning Tree Protocol IEEE802.1w Rapid Spanning tree IEEE802.1p Class of Service IEEE802.1Q VLAN Tagging IEEE 802.1x User Authentication (Radius)
RFC Standard	RFC2030 SNTP, RFC 2821 SMTP, RFC 1215 Trap, RFC2233 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 2665 Ethernet like MIB, RFC 2819 RMON MIB, Private MIB
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward
Packet Filter	Broadcast packet filtering -Number of MAC (50 Tables) -IP Address Security (10 Sections)

Performance	
Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	8K
Memory Buffer	1Mbytes
Back-plane	2.0 Gbps
System Log	1000 records
Back-plane	2.0 Gbps
Transfer packet size	3.87 Mpps at 64 bytes
Local configuration	RJ-45 for RS-232 series
Port Statistics	Supported
Flow Control	Full-duplex and Back Pressure for Half-duplex
Packet Filter	Broadcast/Multi-cast/Unknown Broadcast storm packet filter
Interface	
Number of Ports	8 x 10/100Base-TX + 2 x 100Base FX (HME-821 multimode) (HME-823 singlemode)
System Interface	Port Enable/Disable, Auto-Negotiation and Force speed, Full-duplex or Half-duplex mode
Diagnostic LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green) 8 port 10/100: Link/Activity (Green), Full duplex/Collision (Yellow) Fiber: Link/Activity (Green)
Optical cable	SC (Multi Mode) : 50/125um to 62.5/125um SC (Single Mode) : 9/125um to 10/125um
Distance & wavelength	Multi Mode : Distance 2 km, Wavelength 1310nm Single Mode : Distance 30 km, Wavelength 1310nm
Alarm	Relay output for port break and power failure Current carry ability (1A at DC24V)
Power	
Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	3.5 Watts
Mechanical	
Case Dimensions (WxHxD)	IP 31 standard, 72(W) x 152(H) x 105(D) in mm
Mounting	DIN Rail and wall mount
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-10 deg C to 70 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32

Management Features

Ring Redundancy **X Ring**	**Provide Ring Redundancy, Dual Homing, and Ring Coupling.** Provides redundant backup feature and the recovery time below 50 ms
Management	Web/SNMP/Telnet/CLI/Menu Driven management
Management Protocols	SNMP V1/V2c, RMON 1 (Statistics, History, Alarm, Events) SMTP, SNTP, IGMP V1 & Query mode, DHCP/Client, DHCP Server, TFTP
MIB	MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB
Configuration	Web interface management Reset button is available to restore default settings
VLAN	Supports Port based VLAN/Tag VLAN(256 entries) VLAN ID(Up to 4K) GVRP(256 Groups) Static VLAN groups up to 256, the VLAN ID can be assigned from 1 to 4094.
Quality of Service	Hardware supports 4 queues per port
Port Mirroring	Online traffic monitoring on selected ports
MAC IP Security	- Supports ingress and egress MAC address filter and static source MAC address lock, Dumping MAC address Table - Ingress/Egress MAC address security, per port support learning of 50 MAC addresses
IP Security	Supports 10 IP address accounts for system management security for Web, SNMP and Telnet management security to prevent intruder.
Firmware update	By TFTP
IGMP Snooping	v1 and v2, query mode, multicast group with 256 entries
LACP Port Trunk	3 Trunk groups/Maximum 4 trunk members
Port Mirror	Global system supports 3 mirroring types: "RX, TX and Both packet". Maximum of 8 entries
Port Trunk	802.3ad with LACP function. Up to 3 trunk groups and maximum group member up to 4 ports
Class of Service (CoS)	4 queues per port
Quality of Service (QoS)	Port based/Tag based, IPv4 ToS, IPv6 Different Service
E-mail warning	Pre-defined events
SNMP Trap	Cold start, link down, link up, authorization fail, Ring Redundancy topology Change, Power alarm trap, Trap station up to 3
SMTP	Supports up to 6 e-mail accounts

Ordering Information

HME-821	: Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port 100Base-FX Multi mode (-10 to 70 deg C operating temperature)
HME-823	: Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port 100Base-FX Single mode (-10 to 70 deg C operating temperature)

Managed Gigabit Switches

	HMG-628G	HMG-825	HMG-826	HMG-828
Number of Ports: 10/100Base-TX	6	8	8	8
Number of Gig Ports:1000Base-SX 550m Fiber SC connectors	✘	2	✘	✘
Number of Gig Ports:1000Base-LX 10km Fiber SC connectors	✘	✘	2	✘
Number of Gig Ports: SFP module Number of 1000BASE TX Ports (HMG-628, HMG-828)	2	✘	✘	2
Rigid Aluminum Case	✔	✔	✔	✔
12-48 VDC Power Input	✔	✔	✔	✔
Redundant DC Power Inputs	✔	✔	✔	✔
AC/DC Power Plug Input	✔	✔	✔	✔
Operating Temperature: -40C to 85C	✔	✔	✔	✔
IP 31 Protection	✔	✔	✔	✔
Fault Relay Output	✔	✔	✔	✔
Web based Configuration	✔	✔	✔	✔
Redundancy - **X Ring**, RSTP	✔	✔	✔	✔
IGMP Snooping	✔	✔	✔	✔
Port based and IEEE802.1Q Tag VLAN	✔	✔	✔	✔
Quality of Service	✔	✔	✔	✔
SNMP V1/V2C	✔	✔	✔	✔
RMON1	✔	✔	✔	✔
SMTP (e-mail warning)	✔	✔	✔	✔

The Direct Way to Industrial Ethernet

| **Husky** | **Managed Gigabit Ethernet Series** |
| | **HMG-628G** |

Overview

The Husky managed Industrial Gigabit Ethernet Switch is a state of the art design with Gigabit SX and LX. The HMG-628G supports six 10/100/1000TX plus two ports of 100/1000/Mini-GBIC. The pluggable SFP Mini-GBIC gives you the flexibility to mix and match fiber interfaces depending on your existing network structure. The wide range temperature combo managed industrial switch can be remotely configured by a Web browser, SNMP, Telnet, CLI and menu driven management.

The Husky managed switch supports X-ring self-recovery which allows the switch to self-reconfigure and provides a redundant path in the network. In case any part of your network is disrupted or disconnected, the redundant feature allows a fault recovery time of less than 50ms to save your network from encountering interruption or failure.

To secure your network, the IP security function supports 10 IP address accounts for system management security for Web, SNMP and Telnet management security to prevent intruders. The HMG-628G switch has advanced management features, such as Dual Homing and Ring Coupling.

Key Features

● **Hardware Features**

Complies with IEEE 802.3, IEEE 802.3u,IEEE 802.3X, IEEE 802.3z, IEEE 802.3ad, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D, IEEE 802.1W, IEEE 802.1x

RJ-45 Port support auto MDI/MDI-X function

Wide-range redundant power design

Store and forward switching architecture

DIN rail and 3-way wall mount design
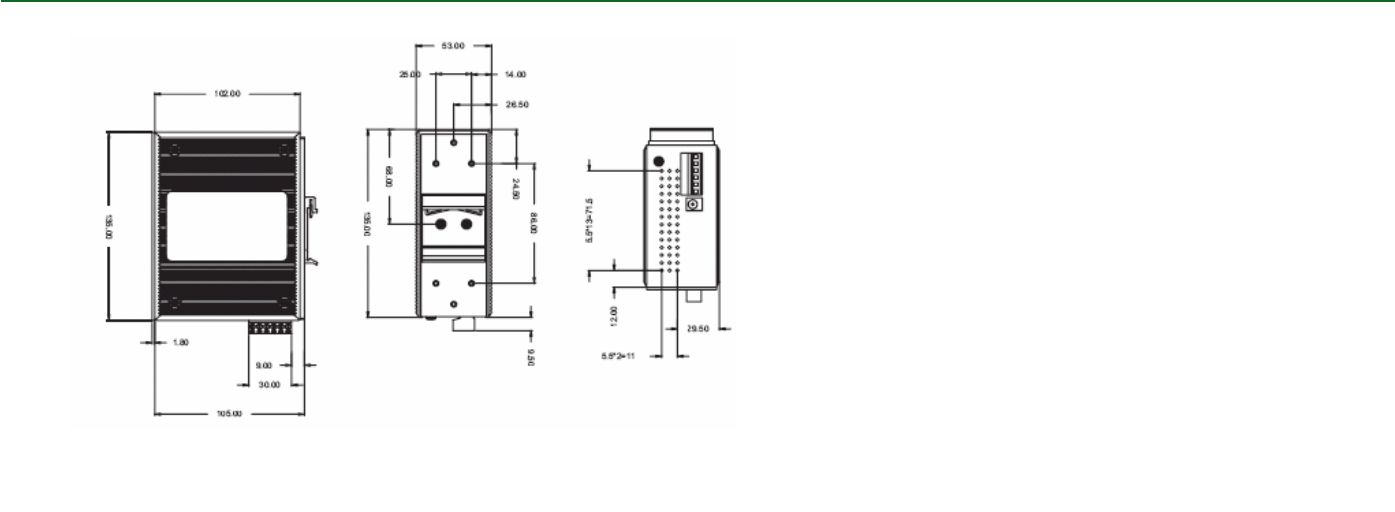
● **Industrial Conformance**

12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power

-40 to 80 Degrees C operation temperature

IP-30 standard Aluminum case

EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE802.3 10BASE-T
	IEEE802.3u 100BASE-TX/100BASE-FX
	IEEE 802.3z Gigabit Fiber
	IEEE802.3x Flow Control and Back Pressure
	IEEE802.3ad Port trunk with LACP
	IEEE802.1d Spanning Tree Protocol
	IEEE802.1w Rapid Spanning tree
	IEEE802.1p Class of Service
	IEEE802.1Q VLAN Tagging
	IEEE 802.1x User Authentication (Radius)
RFC Standard	RFC2030 SNTP, RFC 2821 SMTP, RFC 1215 Trap, RFC2233 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 2665 Ethernet like MIB, RFC 2819 RMON MIB, Private MIB
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward
Packet Filter	Broadcast packet filtering -Number of MAC (50 Tables) -IP Address Security (10 Sections)

Performance	
Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	8K
Memory Buffer	1Mbytes
Back-plane	16 Gbps
System Log	1000 records
Transfer packet size	3.87 Mpps at 64 bytes
Local configuration	RJ-45 for RS-232 series
Port Statistics	Supported
Flow Control	Full-duplex and Back Pressure for Half-duplex
Packet Filter	Broadcast/Multi-cast/Unknown Broadcast storm packet filter
Interface	
Number of Ports	6 x 10/100/1000TX plus 2 100/1000/Mini-GBIC (SFP) 2 Gigabit Fiber
System Interface	Port Enable/Disable, Auto-Negotiation and Force speed, Full-duplex or Half-duplex mode
Diagnostic LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green) Per port: Link/Activity (Green), speed (1000 Green) Mini GBIC: Link/Activity (Green)
Optical cable	SX/SC (Multi Mode) : 50/125um to 62.5/125 um LX/SC (Single Mode) : 9/125um to 10/125um
Distance & wavelength	SX : Distance 550 m, Wavelength 1310nm LX : Distance 10 km, Wavelength 1310nm
Alarm	Relay output for port break and power failure Current carry ability (1A at DC24V)
Power	
Power Supply	24 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	3.5 Watts
Mechanical	
Case Dimensions (WxHxD)	IP 31 standard, 72(W) x 152(H) x 105(D) in mm
Mounting	DIN Rail and wall mount
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-40 deg C to 80 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32

Management Features

Ring Redundancy X-ring	**Provides X-ring, Dual Homing, and Ring Coupling.** Provide redundant backup feature and the recovery time below 50 ms
Management	Web/SNMP/Telnet/CLI/Menu Driven management
Management Protocols	SNMP V1/V2c, RMON 1 (Statistics, History, Alarm, Events) SMTP, SNTP, IGMP V1 & Query mode, DHCP/Client, DHCP Server, TFTP
MIB	MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB
Configuration	Web and SNMP interface management Default button is available to restore default settings
VLAN	Support Port based VLAN/Tag VLAN(256 entries) VLAN ID(Up to 4K) GVRP(256 Groups) Static VLAN groups up to 256, the VLAN ID can be assigned from 1 to 4094.
Quality of Service	Hardware supports 4 queues per port
Port Mirroring	Online traffic monitoring on selected ports
MAC IP Security	- Supports ingress and egress MAC address filter and static source MAC address lock, Dumping MAC address Table - Ingress/Egress MAC address security, per port support learning of 50 MAC addresses
IP Security	Supports 10 IP address accounts for system management security for Web, SNMP and Telnet management security to prevent intruder.
Firmware update	By TFTP
IGMP Snooping	v1 and v2, query mode, multicast group with 256 entries
LACP Port Trunk	3 Trunk groups/Maximum 4 trunk members
Port Mirror	Global system supports 3 mirroring types: "RX, TX and Both packet". Maximum of 8 entries
Port Trunk	802.3ad with LACP function. Up to 3 trunk groups and maximum group member up to 4 ports
Class of Service (CoS)	4 queues per port
Quality of Service (QoS)	Port based/Tag based, IPv4 ToS, IPv6 Different Service
E-mail warning	Pre-defined events
SNMP Trap	Cold start, link down, link up, authorization fail, X-ring topology Change, Power alarm trap, Trap station up to 3
SMTP	Supports up to 6 e-mail accounts

Ordering Information

HMG-628G : Husky Industrial SNMP Combo Wide temperature managed 6 x 10/100/1000TX
         plus 2 100/1000/Mini-GBIC (SFP) Switch
       (-40 to 80 deg C operating temperature)

The Direct Way to Industrial Ethernet

Husky	**Managed Gigabit Ethernet Series**
	HMG-825 (8TX + 2 gig fiber SX/SC)
	HMG-826 (8TX + 2 gig fiber LX/SC)

Overview

The Husky managed Industrial Gigabit Ethernet Switch is a state of the art design that supports Gigabit SX & LX ports. The HMG-825 and HMG-826 series can be remotely configured by a Web browser, SNMP, Telnet, CLI and menu driven management.

The Husky managed switch supports the **X Ring** self-recovery mechanism which allows the switch to reconfigure and provide a redundant path in the network. In case any part of your network is disrupted or disconnected, the redundant feature allows a fault recovery time of less than 50ms to save your network from encountering an interruption or failure.

To secure your network, the IP security function supports 10 IP address accounts for system management security for Web, SNMP and Telnet management security to prevent intrusions. Advanced management features include Dual Homing and Ring Coupling, VLANS, and IGMP snooping.

Key Features

● **Hardware Feature**

Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3X, IEEE 802.3z, IEEE 802.3ad, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D, IEEE 802.1W, IEEE 802.1x

RJ-45 Port support auto MDI/MDI-X function

Wide-range redundant power design

Store and forward switch architecture

DIN rail and 3-way wall mount design

● **Industrial Conformance**

12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power
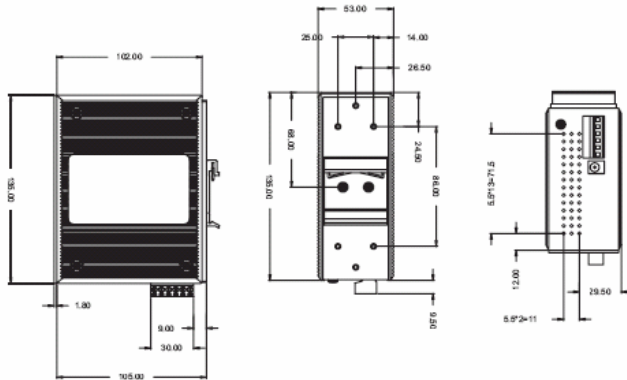
-10 to 70 Degrees C operation temperature

IP-30 standard Aluminum case

EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications	
Technology	
Standard	IEEE802.3 10BASE-T

IEEE802.3u 100BASE-TX/100BASE-FX

IEEE 802.3z Gigabit Fiber

IEEE802.3x Flow Control and Back Pressure

IEEE802.3ad Port trunk with LACP

IEEE802.1d Spanning Tree Protocol

IEEE802.1w Rapid Spanning tree

IEEE802.1p Class of Service

IEEE802.1Q VLAN Tagging

IEEE 802.1x User Authentication (Radius) |
| **RFC Standard** | RFC2030 SNTP, RFC 2821 SMTP, RFC 1215 Trap, RFC2233 MIBII, RFC 1157 SNMP MIB,

RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 2665 Ethernet like MIB,

RFC 2819 RMON MIB, Private MIB |
| **Network Media** | 10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m)

100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) |
| **Protocol Technology** | CSMA/CD |
| **Switching Architecture** | Store and Forward |
| **Packet Filter** | Broadcast packet filtering
-Number of MAC (50 Tables)
-IP Address Security (10 Sections) |

Performance	
Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	8K
Memory Buffer	1Mbytes
Back-plane	5.6 Gbps
System Log	1000 records
Transfer packet size	3.87 Mpps at 64 bytes
Local configuration	RJ-45 for RS-232 series
Port Statistics	Supported
Flow Control	Full-duplex and Back Pressure for Half-duplex
Packet Filter	Broadcast/Multi-cast/Unknown Broadcast storm packet filter
Interface	
Number of Ports	8 10/100TX plus 2 Gigabit Fiber HMG-825 (8TX + 2 gig fiber SX/SC) HMG-826 (8TX + 2 gig fiber LX/SC)
System Interface	Port Enable/Disable, Auto-Negotiation and Force speed, Full-duplex or Half-duplex mode
Diagnostic LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green) 8 port 10/100: Link/Activity (Green), Full duplex/Collision (Yellow) Giga port: Link/Activity
Optical cable	SX/SC (Multi Mode) : 50/125um to 62.5/125 um LX/SC (Single Mode) : 9/125um to 10/125um
Distance & wavelength	SX : Distance 550 m, Wavelength 1310nm LX : Distance 10 km, Wavelength 1310nm
Alarm	Relay output for port break and power failure Current carry ability (1A at DC24V)
Power	
Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	3.5 Watts
Mechanical	
Case Dimensions (WxHxD)	IP 31 standard, 72(W) x 152(H) x 105(D) in mm
Mounting	DIN Rail and wall mount
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-10 deg C to 70 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32

Management Features

Ring Redundancy X Ring	**Provides Ring Redundancy , Dual Homing, and Ring Coupling.** Provides redundant backup feature and the recovery time below 50 ms on the Gigabit ports
Management	Web/SNMP/Telnet/CLI/Menu Driven management
Management Protocols	SNMP V1/V2c, RMON 1 (Statistics, History, Alarm, Events) SMTP, SNTP, IGMP V1 & Query mode, DHCP/Client, DHCP Server, TFTP
MIB	MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB
Configuration	Web interface management Reset button is available to restore default settings
VLAN	Supports Port based VLAN/Tag VLAN(256 entries) VLAN ID(Up to 4K) GVRP(256 Groups) Static VLAN groups up to 256, the VLAN ID can be assigned from 1 to 4094.
Quality of Service	Hardware supports 4 queues per port
Port Mirroring	Online traffic monitoring on selected ports
MAC IP Security	- Supports ingress and egress MAC address filter and static source MAC address lock, Dumping MAC address Table - Ingress/Egress MAC address security, per port support learning of 50 MAC addresses
IP Security	Supports 10 IP address accounts for system management security for Web, SNMP and Telnet management security to prevent intruder.
Firmware update	By TFTP
IGMP Snooping	v1 and v2, query mode, multicast group with 256 entries
LACP Port Trunk	3 Trunk groups/Maximum 4 trunk members
Port Mirror	Global system supports 3 mirroring types: "RX, TX and Both packet". Maximum of 8 entries
Port Trunk	802.3ad with LACP function. Up to 3 trunk groups and maximum group member up to 4 ports
Class of Service (CoS)	4 queues per port
Quality of Service (QoS)	Port based/Tag based, IPv4 ToS, IPv6 Different Service
E-mail warning	Pre-defined events
SNMP Trap	Cold start, link down, link up, authorization fail, Redundant-Ring topology Change, Power alarm trap, Trap station up to 3
SMTP	Supports up to 6 e-mail accounts

Ordering Information

HMG-825　: Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port Gigabit Fiber SX/SC 550m
　　　　　 (-40 to 80 deg C operating temperature)
HMG-826　: Husky Industrial SNMP managed 8-port Ethernet Switch + 2-port Gigabit Fiber LX/SC 10 km
　　　　　 (-40 to 80 deg C operating temperature)

Husky	**Managed Gigabit Ethernet Series**
	HMG-828 (8TX + 2 gig SFP)

Overview

The Husky managed Industrial Gigabit Ethernet Switch is a state of the art design that supports Gigabit SX and LX ports. The HMG-828 supports eight 10/100TX ports plus two ports of 100/1000/Mini-GBIC. The pluggable SFP Mini-GBIC gives you the flexibility to mix and match fiber interfaces depending on your existing network structure. The extended temperature managed industrial switch can be remotely configured by a Web browser, SNMP, Telnet, CLI and menu driven management.

The Husky managed switch supports the **X Ring** self-recovery mechanism which allows the switch to reconfigure and provide a redundant path in the network. In case any part of your network is disrupted or disconnected, the redundant feature allows a fault recovery time of less than 50ms to prevent your network from encountering an interruption or failure.

To secure your network, the IP security function supports 10 IP address accounts for system management security for the Web, SNMP and Telnet management security to prevent intrusions. Advanced management features include Dual Homing and Ring Coupling, IGMP snooping and VLANs.

Key Features

● **Hardware Feature**

Complies with IEEE 802.3, IEEE 802.3u,IEEE 802.3X, IEEE 802.3z, IEEE 802.3ad, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D, IEEE 802.1W, IEEE 802.1x

RJ-45 Port support auto MDI/MDI-X function

Wide-range redundant power design

Store and forward switch architecture

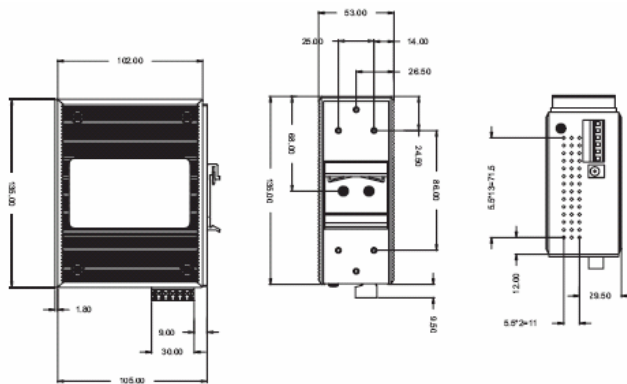DIN rail and 3-way wall mount design

● **Industrial Conformance**

12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power

-40 to 80 Degrees C operation temperature

IP-30 standard Aluminum case

EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX/100BASE-FX IEEE 802.3z Gigabit Fiber IEEE802.3x Flow Control and Back Pressure IEEE802.3ad Port trunk with LACP IEEE802.1d Spanning Tree Protocol IEEE802.1w Rapid Spanning tree IEEE802.1p Class of Service IEEE802.1Q VLAN Tagging IEEE 802.1x User Authentication (Radius)
RFC Standard	RFC2030 SNTP, RFC 2821 SMTP, RFC 1215 Trap, RFC2233 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 2665 Ethernet like MIB, RFC 2819 RMON MIB, Private MIB
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward
Packet Filter	Broadcast packet filtering -Number of MAC (50 Tables) -IP Address Security (10 Sections)

Performance	
Network Data Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC Address	8K
Memory Buffer	1Mbytes
Back-plane	5.6 Gbps
System Log	1000 records
Transfer packet size	3.87 Mpps at 64 bytes
Local configuration	RJ-45 for RS-232 series
Port Statistics	Supported
Flow Control	Full-duplex and Back Pressure for Half-duplex
Packet Filter	Broadcast/Multi-cast/Unknown Broadcast storm packet filter
Interface	
Number of Ports	8 x 10/100TX plus 2 100/1000/Mini-GBIC TX or FX
System Interface	Port Enable/Disable, Auto-Negotiation and Force speed, Full-duplex or Half-duplex mode
Diagnostic LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green)
	8 port 10/100: Link/Activity (Green), Full duplex/Collision (Yellow)
	Mini GBIC: Link/Activity (Green)
	Giga Copper: Link/Activity (Green), speed (1000 Green)
Optical cable	SX/SC (Multi Mode) : 50/125um to 62.5/125 um
	LX/SC (Single Mode) : 9/125um to 10/125um
Distance & wavelength	SX : Distance 550 m, Wavelength 1310nm
	LX : Distance 10 km, Wavelength 1310nm
Alarm	Relay output for port break and power failure
	Current carry ability (1A at DC24V)
Power	
Power Supply	24 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Reverse Polarity Protection	Present
Power Consumption	3.5 Watts
Mechanical	
Case Dimensions (WxHxD)	IP 31 standard, 72(W) x 152(H) x 105(D) in mm
Mounting	DIN Rail and wall mount
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-40 deg C to 80 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 deg F to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950 Class 1 Div. 2 pending
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32

Management Features

Ring Redundancy **X Ring**	**Provides Ring Redundancy, Dual Homing, and Ring Coupling.** Provides redundant backup feature and the recovery time below 50 ms
Management	Web/SNMP/Telnet/CLI/Menu Driven management
Management Protocols	SNMP V1/V2c, RMON 1 (Statistics, History, Alarm, Events) SMTP, SNTP, IGMP V1 & Query mode, DHCP/Client, DHCP Server, TFTP
MIB	MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB
Configuration	Web interface management Reset button is available to restore default settings
VLAN	Supports Port based VLAN/Tag VLAN(256 entries) VLAN ID(Up to 4K) GVRP(256 Groups) Static VLAN groups up to 256, the VLAN ID can be assigned from 1 to 4094.
Quality of Service	Hardware supports 4 queues per port
Port Mirroring	Online traffic monitoring on selected ports
MAC IP Security	- Supports ingress and egress MAC address filter and static source MAC address lock, Dumping MAC address Table - Ingress/Egress MAC address security, per port support learning of 50 MAC addresses
IP Security	Supports 10 IP address accounts for system management security for Web, SNMP and Telnet management security to prevent intruder.
Firmware update	By TFTP
IGMP Snooping	v1 and v2, query mode, multicast group with 256 entries
LACP Port Trunk	3 Trunk groups/Maximum 4 trunk members
Port Mirror	Global system supports 3 mirroring types: "RX, TX and Both packet". Maximum of 8 entries
Port Trunk	802.3ad with LACP function. Up to 3 trunk groups and maximum group member up to 4 ports
Class of Service (CoS)	4 queues per port
Quality of Service (QoS)	Port based/Tag based, IPv4 ToS, IPv6 Different Service
E-mail warning	Pre-defined events
SNMP Trap	Cold start, link down, link up, authorization fail, X-ring topology Change, Power alarm trap, Trap station up to 3
SMTP	Supports up to 6 e-mail accounts

Ordering Information

HMG-828 : Husky Industrial SNMP Combo Wide temperature managed 8 10/100TX plus 2 100/1000/Mini-GBIC
      Switch
          (-40 to 80 deg C operating temperature)

Media Converters

	RUE-111	RUE-111E	RUE-113	RUE-113E
Number of Ports: 10/100Base-TX	1	1	1	1
Number of Ports: Fiber Multimode SC connector	1	1	✖	✖
Number of Ports: Fiber Single mode **SC** connector	✖	✖	1	1
Supports Full/Half Duplex, auto-negotiation, MDI/MDI-X on TX port	✔	✔	✔	✔
Link Loss Forwarding	✔	✔	✔	✔
DIP switch selectable Full/Half duplex on FX port	✔	✔	✔	✔
DIP switch selectable auto-negotiation on FX port	✔	✔	✔	✔
DIP switch selectable Fault relay alarm	✔	✔	✔	✔
Operating Temperature: -10C to 70C	✔	✖	✔	✖
Operating Temperature: -40C to 80C	E Version	E Version	E Version	E Version
IP 31 Protection	✔	✔	✔	✔
Rigid Aluminum Case	✔	✔	✔	✔
Fault Relay Output	✔	✔	✔	✔
Redundant DC Power Inputs	✔	✔	✔	✔
12-48 VDC Power Input	✔	✔	✔	✔
MTBF 315,000 + hours	✔	✔	✔	✔

Media Converters

	RUE-112	RUE-112E	RUE-114	RUE-114E
Number of Ports: 10/100Base-TX	1	1	1	1
Number of Ports: Fiber Multimode **ST** connector	1	1	✖	✖
Number of Ports: Fiber Single mode **ST** connector	✖	✖	1	1
Supports Full/Half Duplex, auto-negotiation, MDI/MDI-X on TX port	✔	✔	✔	✔
Link Loss Forwarding	✔	✔	✔	✔
DIP switch selectable Full/Half duplex on FX port	✔	✔	✔	✔
DIP switch selectable auto-negotiation on FX port	✔	✔	✔	✔
DIP switch selectable Fault relay alarm	✔	✔	✔	✔
Operating Temperature: -10C to 70C	✔	✖	✔	✖
Operating Temperature: -40C to 80C	E Version	E Version	E Version	E Version
IP 31 Protection	✔	✔	✔	✔
Rigid Aluminum Case	✔	✔	✔	✔
Fault Relay Output	✔	✔	✔	✔
Redundant DC Power Inputs	✔	✔	✔	✔
12-48 VDC Power Input	✔	✔	✔	✔
MTBF 315,000 + hours	✔	✔	✔	✔

	Industrial Ethernet to Fiber Rail Converter		
Retriever	**RUE-111/111E**	SC connector	multimode to TX
	RUE-112/112E	ST connector	multimode to TX
	RUE-113/113E	SC connector	singlemode to TX
	RUE-114/114E	ST connector	singlemode to TX

Overview

The Retriever Industrial Ethernet to Fiber rail converter is a robust IP-30 standard compliant converter, specifically designed to operate reliably in electrically harsh, demanding environments and in hazardous locations.

The built-in Link Loss Forwarding technology and relay output alarm promptly notify users once there is a port break or power failure that occur.

The converter provides a high level of immunity to electromagnetic interference and power supply surges typically found in industrial plant environments or external curbside enclosures.

Key Features

- **Hardware Feature**

  Complies with IEEE 802.3, IEEE 802.3u and IEEE 802.3X

  RJ-45 Port support auto MDI/MDI-X function

  Wide-range redundant power design

  Store and forward switch architecture

  DIN rail and 3-way wall mount design

- **Industrial Conformance**

  12 to 48V DC, redundant power with polarity reverse protection and terminal block for master and slave power
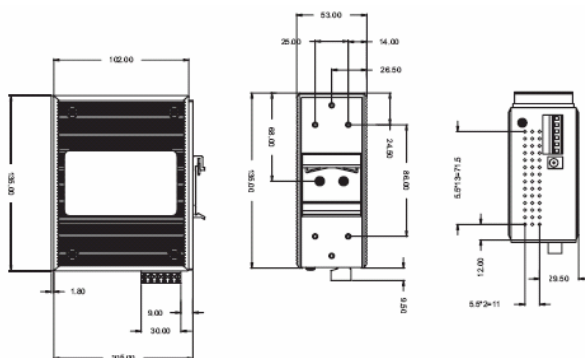
  -10 to 70 Degrees C operation temperature

  IP-30 standard Aluminum case

  EMI complies with FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN6100-4-4, CE EN6100-4-5 and CE EN6100-4-6, EN61000-4-8 and EN61000-4-11

  Stability testing with IEC60068-2-32(Free fall), IEC60068-2-27(Shock) and IEC60068-2-6(Vibration)

Mechanical Dimension (in mm)

Specifications

Technology

Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3x Flow Control and Back-pressure
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Link Loss Forwarding	TX Fiber port – If TX port fails, converter will force the fiber port to disconnect
	Fiber TX – If fiber port fails, converter will force the TX port to disconnect
Switching Architecture	Store and Forward

Interface

Number of Ports	1 x 10/100Base-TX + 1 x 100Base FX
LED Indicators	Power (Green), Power1 (Green), Power2 (Green), Fault (Orange)
	Fiber : Link/Activity (Green), Half/Full Duplex (Green)
	TX : 10/100 (Green), Link (Green), Full Duplex (Orange)
Connector	Fiber : SC or ST (Multi mode, 2km), SC or ST (Single mode, 30km)
	RJ-45 Socket : ACT-3/5 (10/100Mbps) Twisted pair cable
	Auto MDI/MDI-X and Auto-negotiation function
Optical cable	SC, ST (Multi Mode) : 50/125um to 62.5/125um
	SC, ST (Single Mode) : 9/125um to 10/125um
Distance & wavelength	Multi Mode : Distance 2 km, Wavelength 1310nm
	Single Mode : Distance 30 km, Wavelength 1310nm
Alarm	Relay output for port break and power failure
DIP Switch	Dip Switch 1 : OFF for disabling port alarm, ON for enabling port alarm
	Dip Switch 2 : OFF for disabling LLF, ON for enabling LLF
	Dip Switch 3 : OFF for 100Base-FX full mode, ON for 100Base-FX half mode
	Dip Switch 4 : OFF for Auto-negotiation, ON for 100Base-TX full duplex mode

Power

Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
Overload Current protection	Available
Reverse polarity protection	Available
Power Consumption	4.6 Watts

Mechanical	
Case Dimensions (WxHxD)	IP 30 standard, 54 mm (W) x 135 mm (H) x 105 mm (D)
Installation	Provide DIN rail kit and wall mount plate for 3-way installation
Environmental	
Operating Temperature	-10 deg C to 70 deg C
Storage Temperature	-40 deg C to 85 deg C (-40 degF to 185 deg F)
Operating Humidity	5%~90%RH (Non-condensing)
Regulatory Approvals	
Emission	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6, EN61000-4-8, EN61000-4-11
Safety	UL, cUL, CE/EN60950
Stability	IEC60068-2-27 Shock, IEC60068-2-6 Vibration, IEC60068-2-32 Free Fall

Ordering Information

RUE-111   : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Multimode SC, 2km
            (-10 to 70 deg C operating temperature)

RUE-111E : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Multimode SC, 2km
            (-40 to 80 deg C operating temperature – made to order)

RUE-113   : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Single mode SC, 30km
            (-10 to 70 deg C operating temperature)

RUE-113E : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Single mode SC, 30km
            (-40 to 80 deg C operating temperature – made to order)

RUE-112   : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Multimode ST, 2km
            (-10 to 70 deg C operating temperature)

RUE-112E : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Multimode ST, 2km
            (-40 to 80 deg C operating temperature – made to order)

RUE-114   : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Single mode ST, 30km
            (-10 to 70 deg C operating temperature)

RUE-114E : Retriever Industrial 10/100TX to FX Industrial fiber rail converter, Single mode ST, 30km
            (-40 to 80 deg C operating temperature – made to order)

ETHERNET DIRECT ▶▶▶▶

The Direct Way to Industrial Ethernet

Power Supplies

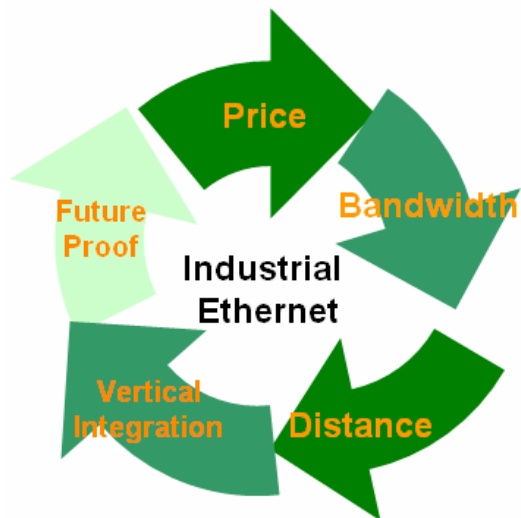|	DR-45-24	DR-75-24	DR-120-24
Input voltage 85-264VAC, 120-137VDC	85-264VAC, 120-370VDC	85-264VAC, 120-370VDC	85-132VAC, 176-264VAC
Output Voltage, Amps	45W, 24VDC, 2.0 A	75W, 24VDC, 3.2A	120W, 24VDC, 5.0 A
AC Inrush current	30A @ 115VAC, 60A @ 230VAC	30A @ 115VAC, 60A @ 230VAC	30A @ 115VAC, 60A @ 230VAC
Overload protection	105-150%	105-150%	105-150%
Over voltage protection	115-135% of rated output voltage	121-142% of rated output voltage	120-140% of rated output voltage
Type	Constant current limiting	Constant current limiting	Constant current limiting
Reset	Auto recovery	Auto recovery	Auto recovery
Operating Temperature:	-10C to 50C	-10C to 60C	-10C to 60C
Operating Humidity:	20-90% RH	20-90% RH	20-90% RH
Safety standards	UL508, TUV EN60950-1	UL508, TUV EN60950-1	UL508, TUV EN60950-1
EMC standards	EN55022 class B EN61000-3-2,3 EN61000-6-2 EN61000-4-2,3,4,5,6,8,11 ENV50204	EN55022 class B EN61000-3-2,3 EN61000-6-2 EN61000-4-2,3,4,5,6,8,11 ENV50204	EN55022 class B EN61000-3-2,3 EN61000-6-2 EN61000-4-2,3,4,5,6,8,11 ENV50204
Weight	.31 kg	.6 kg	.79 kg
Dimensions	78w X 93h X 67d mm	55.5w X 125.2h X 100d mm	65.5w X 125.2h X 100d mm
DIN rail mounting	✔	✔	✔

ETHERNET DIRECT

The Direct Way to Industrial Ethernet

Industrial Ethernet

Price · Bandwidth · Distance · Vertical Integration · Future Proof

- *Industrial Ethernet products for all kinds of Applications*
- *Industrial Ethernet products designed for harsh environments*
- *Industrial Ethernet products with reliability and redundancy*
- *Industrial Ethernet products with the best price, best quality and best performance*

-40°C 80°C

- *Industrial Ethernet products with extended temperature using selected components, designed for mission critical applications*

RoHS Promise

- *Long term commitment*
- *Dedicated to create a safe and clean environment not only to the product but also ensure that all types of packing materials meet the RoHS guidelines.*

The Direct Way to Industrial Ethernet

[About the Ethernet Direct Shopping Cart](#)

Our Shopping Cart system has been developed *for your convenience*, not ours! The shopping cart area does not mean you are committing to any purchase. You can easily enter and leave the area to review other products.

We have constructed the Shopping Cart to accommodate the multiple ways you may want to purchase equipment. We are focused on the industrial market in which companies have purchasing procedures and policies which may prohibit credit card purchases. We have taken the benefit of real time transactions gained from the website and coupled this with traditional methods of procurement. We feel this is the future of business to business transactions.

On-Line Quotations

From the Shopping Cart, you can create a quotation that will be delivered to you instantaneously via return email. This Quotation will have a reference number and pricing protection for 30 days. These quotations can be used to request equipment and once approved, the purchasing departments can fax or mail the Purchase Order to Ethernet Direct (phone, fax and address details are included on the quotation). Quotations can be developed 24 hours a day. Purchasing agents can call and confirm orders during normal business hours.

On-Line Purchase Orders

In addition to mailing or faxing orders, Ethernet Direct provides a means to place Purchase Orders over the web. A confirmation email will indicate delivery time and shipping details. Orders can be cancelled if the delivery time is not satisfactory. Companies wishing to use Purchase Orders must fill out a credit application form (PDF format) before shipping will occur. Once credit is established, companies will receive a customer number that will expedite future orders.

Credit Card Orders

Major Credit Cards (Visa, MasterCard, and Discover) can be used for purchases. The credit card will not be charged until the product has been shipped.

Shipping and Handling

Shipping charges will be calculated based on the estimated weight of the order and the destination from Newburyport, MA. A handling charge of $10 per order is added to cover material costs.

Reserve Equipment for Guaranteed Deliveries

As the popularity of Industrial Ethernet grows, purchasers are experiencing shortages at all suppliers, which may result in delayed projects. In some cases, delays have been longer than 6 weeks. Equally an issue is the arrival of equipment too early, which may result in additional storage cost, just to be sure of equipment availability. We understand that projects and major programs often require the delivery of equipment to a jobsite to be synchronized with the project schedule. Ethernet Direct can help eliminate the potential for logistics issues and added cost by allowing equipment to be shipped at the exact time required.

You can contact Ethernet Direct to check on the availability of any item. If your project schedule exceeds the current delivery schedule, but you want to be sure to have the exact equipment at the time you need it, you can reserve the equipment. Pay a portion of the cost (usually 35% for standard items and 50% for specialty items) and you can be assured of delivery within 72 hours of the time identified. Many items will be shipped to meet the same day delivery. Contact Ethernet Direct to learn more about this service.

5 year global warranty on all products
EthernetDirect is so confident in the quality of its line of industrial products that we confidently offer a 5 year warranty on all products

Technical Support

Ethernet Direct provides several methods for you to learn more about the operation of our products.

Support Library
We are providing an extensive library of videos on topics including Installation and Operation.

Presentations, Product Manuals & Videos - Ethernet Basics Series

Presentations - ppt format - Powerpoint

- VLANS
- Redundancy
- IGMP Basics - Part 1
- IGMP Basics - Part 2
- QOS/COS
- IP Addressing
- Routers
- MAC Addresses
- Hubs & switches
- Getting Started - Unmanaged

Videos - wmv format - Windows Media Player

- Video - How to get a Quote using the Ethernet Direct Shopping Cart - 4.22MB
- Video - How to enter an order using the Ethernet Direct Shopping Cart - 7.36MB
- Video - How to set up a laptop to communicate to a managed switch - 4.24MB
- Video - How to configure Husky X-Ring Redundancy - 3.92MB
- Video - How to change the IP address of a managed switch - 3.7MB

- Video - Switch management menu overview - 15.1MB
- Video - How to save a switch configuration to a file and how to restore a copy from a file to a switch - 4.9MB
- Video - How to upgrade firmware in a managed switch - 3.58MB
- Video - How to download firmware from the ED website - 2.05MB

Frequently Asked Questions
- Ethernet Basics
- Selecting a Switch
- Set Up & Configuration of Switches
- Troubleshooting an Ethernet Switch
- Ethernet Terms & Information

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techsupport@ethernetdirect.com

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