## GREYHOUND 19" Ruggedized Rack-Mount Switches and Media Modules



The GREYHOUND Gigabit Ethernet switches are offered in two basic versions.
The configuration options include:

- 16 Fast Ethernet TX ports
- Eight Fast Ethernet TX ports, plus eight Fast Ethernet small form-factor pluggable (SFP) ports
- It is also possible to add four Gigabit Ethernet Combo ports

The basic units offer a media module slot that allows customers to add or change ports in the field, as their network design requirements change in the future. The modules can be ordered in versions from all-copper to all-fiber, depending on the individual need.

| Technical Information |
| :--- |
| Product Description Basic Units |
| Type |

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## Technical Information

| Product Description Media Modules for GREYHOUND |  |
| :--- | :--- |
| Type | GRM20-xx |
|  |  |
| Port Type and Quantity | up to 8 FE ports, more details in the configurator for ST, SC, RJ45, SFP slots |
| Power Consumption | 2 to 9 W depending on the variant |
| Weight | 450 to 650 g depending on the variant |

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.hirschmann.com


Common Technical Data Basic Units and Media Modules

| Gigabit EtHERNET Network Size |  |
| :---: | :---: |
| Twisted Pair (TP) | 0 to 100 m |
| Multimode Fiber (MM) 50/125 $\mu \mathrm{m}$ | 0 to $550 \mathrm{~m}, 7.5 \mathrm{~dB}$ link budget; $62.5 / 125 \mu \mathrm{~mm} 0$ to $275 \mathrm{~m}, 7.5 \mathrm{~dB}$ link budget (with M-SFP-SX/LC) |
| Singlemode Fiber (SM) 9/125 $\mu \mathrm{m}$ | 0 to $20 \mathrm{~km}, 11 \mathrm{~dB}$ link budget (with M-SFP-LX/LC); 14 to $42 \mathrm{~km}, 5$ to 20 dB link budget (with M-SFP-LX+/LC) |
| Singlemode Fiber (LH) 9/125 $\mathrm{\mu m}$ | 23 to $80 \mathrm{~km}, 5$ to 22 dB link budget (with M-SFP-LH/LC); 71 to $128 \mathrm{~km}, 15$ to 30 dB link budget (with M-SFP-LH+/LC) |
| Fast ETHERNET Network Size |  |
| Twisted Pair (TP) | 0 to 100 m |
| Multimode Fiber (MM) 50/125 $\mu \mathrm{m}$ | 0 to $5000 \mathrm{~m}, 8 \mathrm{~dB}$ link budget; $62.5 / 125$ mm, 0 to $4000 \mathrm{~m}, 11 \mathrm{~dB}$ link budget (with M-Fast SFP-MM/LC) |
| Singlemode Fiber (SM) 9/125 $\mu \mathrm{m}$ | 0 to $25 \mathrm{~km}, 13 \mathrm{~dB}$ link budget (with M-Fast SFP-SM/LC); 25 to 65 km , 10 to 29 dB link budget (with M-Fast SFP-SM+/LC) |
| Singlemode Fiber (LH) 9/125 $\mathrm{\mu m}$ | 47 to $104 \mathrm{~km}, 10$ to 29 dB link budget (with M-Fast SFP-LH/LC) |
| Network Size - Cascadibility |  |
| Line-/Star Topology | Any |
| Ring Structure | >200 switches MRP |
| Ambient Conditions |  |
| Operating Temperature | $0^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$, or $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$, IEC $60068-2-2$ Dry Heat Test $+85^{\circ} \mathrm{C} 16$ hours, optional conformal coating |
| Relative Humidity (non-condensing) | 5\% to 95\% |
| Approvals Configurable |  |
| Safety of Industrial Control Equipment | EN 60950-1, EN 61131-2, cUL60950-1 |
| Substation | IEC 61850-3, IEEE 1613 |
| Ship | GL - Germanischer Lloyd (pending) |
| Hazardous Locations | ISA-12.12.-01 Class 1 Div. 2 Group A, B, C, D (pending) |
| Transportation | NEMA TS2, EN 50121-4 |
| Accessories |  |
| Device Replacement and Logging | ACA22-USB EEC 942 124-001 |

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## GREYHOUND GRS1020/GRS1120/GRS1030/GRS1130 Switch Configurations


XX.X = Current Software Release

## GREYHOUND GRM20 Media Modules Configurations



## Port Configuration 3 and 4

TT $=2 \times$ Twisted Pair TX, RJ45, $100 \mathrm{Mbit} / \mathrm{s}$
$=2 \times$ SFP Slots, $100 \mathrm{Mbit} / \mathrm{s}$
MM $=2 \times$ Multimode FX, DSC, $100 \mathrm{Mbit} / \mathrm{s}$
NN $=2 \times$ Multimode FX, ST, $100 \mathrm{Mbit} / \mathrm{s}$
VV $=2 \times$ Singlemode FX, DSC, $100 \mathrm{Mbit} / \mathrm{s}$
$U U=2 \times$ Singlemode FX, ST, $100 \mathrm{Mbit} / \mathrm{s}$
$99=$ Not equipped
Port Configuration 5 and 6
TT $=2 \times$ Twisted Pair TX, RJ45, $100 \mathrm{Mbit} / \mathrm{s}$
MM $=2 \times$ Multimode FX, DSC, $100 \mathrm{Mbit} / \mathrm{s}$
VV $=2 \times$ Singlemode FX, DSC, $100 \mathrm{Mbit} / \mathrm{s}$
$99=$ Not equipped

ZZ $=2 \times$ SFP Slots, $100 \mathrm{Mbit} / \mathrm{s}$
NN $=2 \times$ Multimode FX, ST, $100 \mathrm{Mbit} / \mathrm{s}$
$\mathrm{UU}=2 \times$ Singlemode FX, ST, $100 \mathrm{Mbit} / \mathrm{s}$

Port Configuration 7 and 8
TT $=2 \times$ Twisted Pair TX, RJ45, $100 \mathrm{Mbit} / \mathrm{s}$
MM $=2 \times$ Multimode FX, DSC, $100 \mathrm{Mbit} / \mathrm{s}$
VV $=2 \times$ Singlemode FX, DSC, $100 \mathrm{Mbit} / \mathrm{s}$
$99=$ Not equipped

ZZ $=2 \times$ SFP Slots, $100 \mathrm{Mbit} / \mathrm{s}$
NN $=2 \times$ Multimode FX, ST, $100 \mathrm{Mbit} / \mathrm{s}$
$\mathrm{UU}=2 \times$ Singlemode FX, ST, $100 \mathrm{Mbit} / \mathrm{s}$

Temperature Range
$\mathrm{S}=0^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$
$\mathrm{T}=-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
$\mathrm{E}=-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ conformal coating

## Approvals

Z9 = CE, FCC, EU Safety
X9 = Z9, US Safety, Hazardous Location
VY = Z9, US Safety, Substation
VT $=$ Z9, US Safety, Substation, Transportation
UY = Z9, US Safety, Marine
UX $=$ Z9, US Safety, Marine, Hazardous. Location
TY = Z9, US Safety, Transportation

Y9 = Z9, US Safety
V9 = Z9, Substation
VU = Z9, US Safety, Substation, Marine
U9 = Z9, Marine
UT $=$ Z9, US Safety, Marine, Transportation
T9 = Z9, Transportation

## Customization

HH = Hirschmann Standard

## Hardware Configuration

S = Standard


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