



## Hirschmann OpenRail light: The new RS20 Basic Switches.

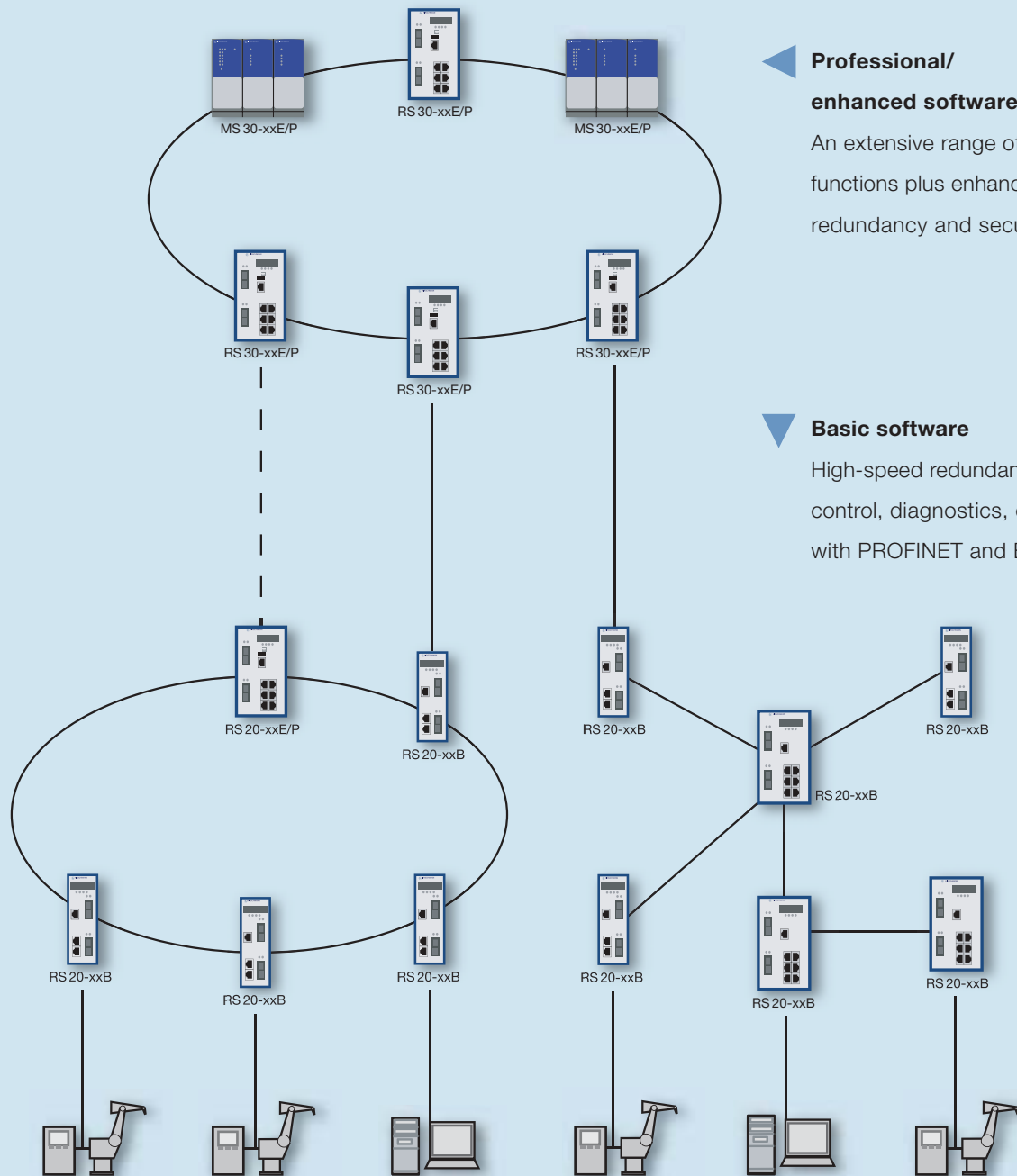
- Optimized versions with a new software level
- Individual configuration
- Ring and diagnostic enabled
- Hirschmann industrial quality
- Maximum cost effectiveness



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# Less is more: The new RS20 OpenRail Basic Switches.



## Professional/ enhanced software

An extensive range of filter functions plus enhanced redundancy and security

## Basic software

High-speed redundancy, multicast control, diagnostics, compatible with PROFINET and EtherNet/IP

## Applications

In the entry-level range (small machinery manufacturing and automation networks), users appreciate the variability and variety which OpenRail products offer without the need for an extensive range of management functions. Hirschmann has developed the tailored

“light” solution, the RS 20 OpenRail Basic Switches, to meet this need. These switches deliver good performance in low-cost automation applications, offering maximum individuality and availability in a high volume product for nearly any application.

# Between enhanced and unmanaged: OpenRail Basic.

## Requirements and Solutions

Sometimes the simplest solution is actually the best one. In practical industrial ETHERNET applications, users are not just looking for high-performance, intelligent power switches. Many also prefer minimal management, and somewhat fewer software functions than the enhanced version. They want neither too little nor too much. Hirschmann has introduced the RS20 OpenRail Basic Switch to meet this need, adding a product with good price-performance ratio at the

lower end of the OpenRail range. Hirschmann can now supply a variety of options in the low-managed range based on the familiar Hirschmann OpenRail design. Our user-friendly web configurator helps you quickly find the product you are looking for. You can place your order at the same price and delivery terms as our other products and with the Hirschmann quality which you expect.



## Basic Software

In contrast to the enhanced and professional versions, basic software concentrates on the essentials: management and ring-enabled products at an attractive price, which allow you to create redundant networks

and capture diagnostic data from the network. You get as many functions as you need, at the most cost-effective price.

## Variety in a series product: OpenRail System order placement.



The compatibility  
you expect:

**PROFI**  
INDUSTRIAL ETHERNET  
**NET**

**EtherNet/IP**

**Modbus TCP**

### Configuration

Hirschmann makes things as easy as possible for its customers, and this includes the order placement process. We offer a large number of versions, but no matter which one you choose, we guide you step by step through the order placement. The parameters which you enter are used to generate your order code

containing all the information we need. Once your order is received, our customer-focused production team manufactures your individual switches. The process could not be easier or more cost-effective.

[configurator.hirschmann.com](http://configurator.hirschmann.com)

RS20-	<b>Model</b>			
	RS20	Fast-ETHERNET Uplinks		
08	<b>Ports FE</b>			
	04	4 x 100 MBit/s		
	08	8 x 100 MBit/s		
00	<b>Ports GE</b>			
	00	0 x 1000 MBit/s		
M2	<b>Ports Type 1. Uplink</b>			
	T1	1 x Tx	10/100 MBit/s	RJ 45
	M2	1 x Multimode	100 MBit/s	SC
M2	<b>Ports Type 2. Uplink</b>			
	T1	1 x Tx	10/100 MBit/s	RJ 45
	M2	1 x Multimode	100 MBit/s	SC
S	<b>Temperature range</b>			
	S	0° C up to +60° C		
	T	-40° C up to +70° C		
	E	-40° C up to +70° C	Including conformal coating	
D	<b>Power supply</b>			
	D	12/24/48 VDC and 24 VAC		
A	<b>Approvals</b>			
	A	cUL508 · cUL1604 · Class 1 Div.2		
	H	cUL508 · cUL1604 · Class 1 Div.2 GL: German Lloyd · IEC 61850-3: Substation IEEE1613: Substation · EN50121-4: Railway (along track)		
	B	cUL508 · cUL1604 · Class 1 Div.2 GL: German Lloyd · IEC 61850-3: Substation IEEE1613: Substation · EN50121-4: Railway (along track) ATEX100a, Zone 2: Hazardous Location		
B	<b>Software version</b>			
	B	Basic: Diagnostics, HIPER-Ring, Multicast control		
		Compatible with PROFINET, EtherNet/IP and Modbus TCP		
H	<b>Configuration</b>			
	H	Standard		
	X	Customer specific		
H	<b>OEM type</b>			
	H	Standard		
	X	Customer specific		
03.1	<b>Software release</b>			
	03.1	Software Release 3.1		

Compulsory field

Optional

RS20- 08 00 M2 M2 S D A B H H 03.1

Configure your OpenRail Basic Switch simply with our online tool.  
[configurator.hirschmann.com](http://configurator.hirschmann.com)

# The new OpenRail System at a glance.

## OpenRail Basic

Product name	RS 20-0400 ...	RS 20-0800 ...
<b>Product description</b>		
Description	ETHERNET/Fast-ETHERNET switch according to IEEE 802.3 compact, managed, Industrial switch for DIN rail, store-and-forward-switching, fanless design, Software Layer 2 Basic	
Port type and quantity	Fast-ETHERNET ports in total: 4; 4 x 10/100BASE TX RJ 45 optional 2 x 10/100BASE TX RJ 45 plus 2 x 100BASE FX-SC	Fast-ETHERNET ports in total: 8; 8 x 10/100BASE TX RJ 45 optional 6 x 10/100BASE TX RJ 45 plus 2 x 100BASE FX-SC
Type	<b>RS 20-0400T 1T 1SDABHH03.1. TX-variant</b> <b>RS 20-0400M2M2SDABHH03.1. FX-variant</b>	<b>RS 20-0800T 1T 1SDABHH03.1. TX-variant</b> <b>RS 20-0800M2M2SDABHH03.1. FX-variant</b>
<b>More Interfaces</b>		
Power supply/signaling contact	1 x plug-in terminal block, 6-pin	
V.24 interface	1 x RJ11 socket	
<b>Network size – length of cable</b>		
Twisted Pair (TP)	0 – 100 m	
Multimode fiber (MM) 50/125 µm	0 – 5000 m, 8 dB link budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 800 MHz x km (fiber variant)	
Multimode fiber (MM) 62.5/125 µm	0 – 4000 m, 11 dB link budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km (fiber variant)	
<b>Network size – cascadiability</b>		
Line-/star topology	any	
Ring structure (HIPER-Ring)	100 (reconfiguration time < 0.3 sec.)	
<b>Power requirements</b>		
Operating voltage	12/24/48 V DC (9,6 – 60 V) and 24 V AC (18 – 30 V)	
Current consumption at 24 VDC	215 mA (fiber 315 mA)	225 mA (fiber 325 mA)
Current consumption at 48 VDC	109 mA (fiber 159 mA)	115 mA (fiber 165 mA)
Power output in Btu (IT) h	18 (fiber 26)	19 (fiber 27)
<b>Software</b>		
Management	Serial interface, web-interface, SNMP V1/V2/V3, HiVision file transfer software HTTP/TFTP	
Diagnostics	LEDs, log file, signal contact, RMON, port mirroring, topology discovery 802.1AB	
Configuration	Command line interface (CLI), BootP, DHCP, DHCP option 82, HIDiscovery, auto-configuration adapter (ACA11), file transfer config HTTP/TFTP	
Security	SNMP V3	
Redundancy functions	HIPER-Ring (no redundancy manager), MRP (IEC-Ring functionality), redundant 24 V power supply	
Filter	QoS 4 classes, port priority (IEEE 802.1D/p), multicast (IGMP snooping), fast aging	
Realtime	SNTP client, PTP/IEEE 1588	
<b>Ambient conditions</b>		
Operating temperature	0° up to +60° C optional –40° up to +70 % (EEC)	
Storage/transport temperature	–40° up to +70° C optional –40° up to +85° C (EEC)	
Conformal coating on PCB	optional	
Relative humidity (non-condensing)	10 % up to 95 %	
MTBF (MIL HDBK-217F)	76 years (fiber 62 years)	63 years (fiber 53 years)
<b>Mechanical construction</b>		
Dimensions (W x H x D)	47 x 131 x 111 mm	74 x 131 x 111 mm
Mounting	DIN Rail	
Weight	400 g	530 g
Protection class	IP 20	
<b>Mechanical stability</b>		
IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks	
IEC 60068-2-6 vibration	1 mm, (2 – 13.2 Hz), 90 min.; 0.7 g, (13.2 – 100 Hz), 90 min.; 3.5 mm, (3 – 9 Hz), 10 cycles, 1 octave/min.; 1 g, (9 – 150 Hz), 10 cycles, 1 octave/min.	
<b>EMC interference immunity</b>		
EN 61000-4-2 electrostatic discharge (ESD)	6 kV contact discharge, 8 kV air discharge	
EN 61000-4-3 electromagnetic field	10 V/m (80 – 1000 MHz)	
EN 61000-4-4 fast transients (burst)	2 kV power line, 1 kV data line	
EN 61000-4-5 surge voltage	power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line	
EN 61000-4-6 conducted immunity	3 V (10 kHz – 150 kHz), 10 V (150 kHz – 80 MHz)	
<b>EMC emitted immunity</b>		
FCC CFR47 Part 15	FCC CFR47 Part 15 class A	
EN 55022	EN 55022 class A	
<b>Approvals</b>		
Safety of industrial control equipment	cUL 508 (pending)	
Hazardous locations	cUL 1604 class1 div 2 (pending)	
German Lloyd	optional	
Substation	optional	
Railway standard	optional	
<b>Scope of delivery and accessories</b>		
Scope of delivery	Device, terminal block, operating manual	
Accessories to order separately	Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, terminal cable, network management HiVision, auto-configuration adapter (ACA11), 19" installation frame	

## Product features

Unlimited possibilities: the dependable Hirschmann modular design ensures maximum flexibility and efficiency. OpenRail Basic offers individual features in a high volume product, delivering the right performance for your particular application:

- suitable for industrial applications
- designed for reliable transfer of diagnostic data
- ring-enabled for use in redundant networks
- user-selectable temperature range extends applications spectrum
- complies with all applicable industrial standards
- autonegotiation, autopolarity, autocrossing and diagnostic displays save time during initial startup
- compatible with PROFINET, EtherNet/IP and Modbus TCP

## Hirschmann Competence Center

The Hirschmann Competence Center is ready to help you when you need cost-effective total solutions as well as high-quality products. You get highly professional consulting and support services from

the pioneer in industrial network technology. Contact us to discuss your individual needs.

[www.hicomcenter.com](http://www.hicomcenter.com)



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- Sales subsidiaries
- Selected distribution partners

## Hirschmann Automation and Control GmbH

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FiberINTERFACES

Industrial Connectors

Electronic Control Systems

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*"The information/details in this publication merely contain general descriptions or performance factors which, when applied in an actual situation, do not always correspond with the described form, and may be amended by way of the further development of products. The desired performance factors shall only be deemed binding if these are expressly agreed on conclusion of the contract.*

*Please note that some characteristics of the recommended accessory parts may differ from the appropriate product. This might limit the possible operating conditions for the entire system."*