



# NetEngine 8000 M14 Series Universal Service Routers

# Overview

HUAWEI NetEngine 8000 M14 all-scenario intelligent router is a high-end intelligent router launched by Huawei for the industry. It is mainly used in access and aggregation scenarios to form an intelligent and simplified IP bearer network solution with simplified architecture, intelligent connection, and committed high availability. The details are as follows:

- (1) The NetEngine 8000 M14 breaks through multiple technical difficulties, such as ultra-high-speed signal transmission, super heat dissipation, and efficient power supply. It achieves a compact and large capacity of 5U/2T bit/s and 220 mm. It is the most compact router in the industry. Supports a full series of interfaces to meet the traffic growth and diversified service access requirements in the cloud era. Currently, Ethernet, SDH and PDH interfaces are supported, and PCM interfaces are supported in the roadmap. NetEngine 8000 M14 is a full-scenario converged platform that supports home broadband, private line, mobile bearer, and cloud bearer scenarios, simplifying network layers and complexity. The network slicing (FlexE) function implements multi-purpose and comprehensive bearer on one network.
- (2) NetEngine 8000 M14 supports SRv6 and enables intelligent connections. Based on IPv6, SRv6 provides a large number of continuous addresses and rich scalability capabilities, implements automatic cross-domain connection and minute-level service provisioning, and implements cloud scheduling network and one-hop to the cloud. SRv6 can identify applications and tenants and implement intelligent traffic steering such as latency and bandwidth based on customer requirements to ensure service SLA. The number of network protocols is reduced from 10+ to 2, simplifying network O&M.
- (3) The NetEngine 8000 M14 supports intelligent O&M. Automation and intelligent technologies are introduced to implement intelligent O&M. Based on iMaster NCE, the In-situ Flow Information Telemetry (iFIT) technology accurately detects network SLAs in real time, visualizes service quality in real time, and supports minute-level fault locating. Unique ROAM algorithm, intelligent traffic steering and optimization; The intelligent algorithm reduces the number of displayed alarms by 99%.

The NetEngine 8000 M14 can be flexibly deployed at multiple locations on the network. It integrates multiple functions, simplifies the network structure, provides various service types, reliable service quality, and intelligent O&M, and leads the IP WAN towards an intelligent network with autonomous driving, providing continuous and surging power for enterprise customers' business success.



NetEngine 8000 M14 DC

NetEngine 8000 M14 AC

NetEngine 8000 M14 AC

( High performance )

( Normal )

## Product Features

Features of Huawei NetEngine 8000 M14 series routers

Feature	Description
Interface type	100GE/50E/40GE/25GE/10GE/GE/FE/E1/cPOS/POS
Typical port density	100GE:20; 50GE:28; 25GE:80; 10GE:140; GE:280
Ethernet layer 2 protocol	G.8032, STP/RSTP, MSTP, L2 protocol transparent transmission, BPDU, LACP
Ethernet service	VLAN, Bridge domain, L2TPv3, QinQ

Feature	Description
Routing	RIP, RIPng, OSPF, OSPFV3, IS-IS, IS-ISV6, BGP, BGPv6, Static routing, IPv4 Multicast, IPv6 Multicast, Multicast static, etc
IPv4	<p>TCP/IP, for example, ICMP, IP, TCP, UDP, Socket (TCP/UDP/RAW IP), ARP</p> <p>Static DNS</p> <p>DNS Client</p> <p>FTP Server</p> <p>FTP Client</p> <p>TFTP Client</p> <p>DHCP Relay 和 DHCP Server</p> <p>Ping</p> <p>Tracert</p> <p>NQA</p> <p>IP policy-based routing</p> <p>Forwarding next hop based on traffic IP</p> <p>policy-based route load balancing</p> <p>The QinQ interface (QinQ termination and dot1q termination) supports IPv4 load balancing.</p> <p>Enabling and disabling the rapid ping reply function based on interface boards</p> <p>Forcible fragmentation for packets with length greater than MTU and DF enabled</p> <p>MPLS-in-UDP tunnel egress</p> <p>PIM Multicast</p>
IPv6	<p>IPv6(ND)</p> <p>Path MTU (PMTU)</p> <p>TCP6</p> <p>Ping IPv6</p> <p>Tracert IPv6</p> <p>Socket IPv6</p> <p>DHCPv6 Relay</p> <p>Static IPv6 DNS</p> <p>TFTP IPv6 Client</p> <p>IP policy-based routing</p> <p>IPv6 ND fast reply</p> <p>PIM Multicast</p>
L2VPN	PWE3/VLL, VPLS, EVPN, EVPN L3VPN, VxLAN , L2TP

L3VPN	<p>CE routers can access the L3VPN through L3 interfaces.</p> <p>MP-BGP</p> <p>RSVP-TE P2MP</p> <p>Support static routes between CE and PE, BGP, RIP, OSPF and ISIS</p> <p>Inter-AS VPN, including RFC2547bis option A.</p> <p>Inter-AS VPN, including RFC2547bis option B</p> <p>Inter-AS VPN, including RFC2547bis option C</p> <p>NG-MVPN</p> <p>IPv6 VPN</p> <p>HoVPN</p> <p>Seamless MPLS</p> <p>BGP LSP entropy label</p> <p>Redirect to VPN</p> <p>L3VPN PIPE/Uniform mode</p> <p>L3VPN Statistics</p>
SRv6	SRv6-BE、SRv6 Policy、SRv6 egress protection
VAS	BNG/BRAS、NAT/CGN、IPSec、MACSec
Clock	Physical layer synchronization、1588v2 Optional support of ITU-T G8273.2 Class C
OAM	<p>iFIT</p> <p>IPFPM</p> <p>NQA</p> <p>TWAMP</p> <p>BFD</p> <p>MPLS OAM</p> <p>MPLS-TP OAM</p> <p>VRRP</p> <p>Ethernet OAM</p> <p>802.3ah</p> <p>Y1731</p> <p>Ethernet LPT</p> <p>Bit-error-triggered protection switching</p>
QoS	QPPB , Differ-Serv , HQoS , Redirection

# Product Specifications

Item	NetEngine 8000 M14
Dimensions (H x W x D)	222 mm x 442 mm x 220 mm (8.74 in. x 17.4 in. x 8.66 in.) (5U)
Weight (full configuration)	<ul style="list-style-type: none"> <li>• DC: 28.5kg (62.84 lb)</li> <li>• AC: 30.0kg (66.15 lb)</li> </ul>
Cabinet installation standard	ETSI 21-inch; IEC 19-inch
Typical power consumption	<ul style="list-style-type: none"> <li>• [IPUA-2T]DC: 1187.81 W</li> </ul>

Item	NetEngine 8000 M14
	<ul style="list-style-type: none"> <li>• [IPUA-2T]AC: 1270.13 W</li> <li>• [IPUA-1T2]DC: 875.15 W</li> <li>• [IPUA-1T2]AC: 925.81 W</li> <li>• [IPUA-1T2-A]DC: 454.12 W</li> <li>• [IPUA-1T2-A]AC: 485.59 W</li> </ul>
Typical heat dissipation	<ul style="list-style-type: none"> <li>• [IPUA-2T] DC: 3776.14 BTU/hour</li> <li>• [IPUA-2T] AC: 4037.85 BTU/hour</li> <li>• [IPUA-1T2] DC: 2761.75 BTU/hour</li> <li>• [IPUA-1T2] AC: 2953.16 BTU/hour</li> <li>• [IPUA-1T2-A] DC: 933.34 BTU/hour</li> <li>• [IPUA-1T2-A] AC: 988.03 BTU/hour</li> </ul>
DC input voltage	<ul style="list-style-type: none"> <li>• input voltage range: -40V to -72V</li> <li>• input rated voltage: -48V/-60V</li> </ul>
AC input voltage	<ul style="list-style-type: none"> <li>• input voltage range: 90V to 290V</li> <li>• input rated voltage: 200V~240V/100V~127V dual live wires, support 240V HVDC</li> </ul>
MTBF	89.49 years
MTTR	0.5 hour
Availability	0.999999362
Slot quantity	<ul style="list-style-type: none"> <li>• DC:14</li> <li>• AC inside:10</li> <li>• AC outside:14</li> </ul>
Redundant IPUs	1: 1
Redundant fans	3+1, short-term running when a single fan becomes invalid at the ambient temperature of 40°C(104°F) (one fan module contains four fans)
Redundant power supply	DC: 1+1 AC: 2+2

Forwarding performance	[IPU-2T]906 Mpps [IPU-1T2]453 Mpps [IPU-1T2-A]453 Mpps
Switching capacity	IPU-2T: 4T bit/s IPU-1T2: 2.4T bit/s IPU-1T2-A: 2.4T bit/s
Operating temperature	-20°C ~ 55°C (-4°F to 131°F), start: $\geq$ -5°C (23°F)
Storage temperature	-40 °C to 70 °C (-40°F to 158°F)
Relative operating humidity	<ul style="list-style-type: none"> <li>• Long term: 5% to 85% RH, non-condensing</li> <li>• Short term: 5% to 95% RH, non-condensing</li> </ul>
Relative storage humidity	5% to 95% RH, non-condensing
Long-term operating altitude	$\leq$ 4000 m (13123.2 ft.) (For the altitude in the range of 1800 m to 4000 m [5905.44 ft. to 13123.2 ft.], the operating temperature of the NEU100 must decrease by 1°C [33.8°F] for every 220 m [721.78 ft.]

<b>Item</b>	<b>NetEngine 8000 M14</b>
Storage altitude	Lower than 5000 meters

Regulatory compliance

EMC

- ANSI C63.4
- AS/NZS CISPR 32
- CISPR 24
- CISPR 32
- EN 55024
- EN 55032
- ETSI EN 300 386
- ETSI ES 201 468
- FCC CFR47 Part 15 Subpart B
- ICES-003 Issue 6
- ICES-GEN Issue 1
- IEC 61000-3-2
- IEC 61000-3-3
- IEC 61000-4-11 • IEC 61000-4-2
- IEC 61000-4-29
- IEC 61000-4-3
- IEC 61000-4-4
- IEC 61000-4-5
- IEC 61000-4-6
- IEC 61000-6-2
- IEC 61000-6-4
- VCCI-CISPR 32

Environment

- IEC 60068-2-30
- IEC 60068-2-78
- IEC 60068-2-14
- IEC 60068-2-1 • IEC 60068-2-2

Safety

- IEC/EN/UL/CSA 60950-1
- IEC/EN 62368-1

Environmental protection

Item

NetEngine 8000 M14

	<ul style="list-style-type: none"> <li>• 2011/65/EU &amp; (EU)2015/863 (EU RoHS)</li> <li>• Regulation (EC) No.1907/2006 (REACH)</li> <li>• 2012/19/EU (WEEE)</li> <li>• 2006/66/EC &amp; 2013/56/EU on batteries and accumulators</li> </ul>
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 **NOTE**

- In the physical dimensions shown in the table, the width (W) does not include the rack-mounting ears.
- Temperature and humidity are measured at 1.5 m (4.92 ft.) above the floor and 0.4 m (1.31 ft.) in front of the cabinet. There should be no protection board on the front or back of the cabinet.
- "Short-term" refers to continuous working time that does not exceed 96 hours and accumulated working time per year that does not exceed 15 days. If the working time exceeds either of these values, it is considered "long-term".

## Ordering Information

### Basic Hardware Configurations

#### NetEngine 8000 M14 Basic Configurations

BOM Number	Order Name	Description	Remarks
02352YYM	CR8P02BASDC1	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-2T, 2*DC Power,without Software Charge and Document)	
02352YYP	CR8P02BASAC1	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-2T, 4*AC Power,without Software Charge and Document)	
02352YYN	CR8P02BASDC2	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2, 2*DC Power,without Software Charge and Document)	
02352YYQ	CR8P02BASAC2	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2, 4*AC Power,without Software Charge and Document)	
02353NBM	CR8P02BASDC5	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2-A, 2*DC Power,without Software Charge and Document)	
02353NBP	CR8P02BASAC5	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2-A, 2*AC Power,without Software Charge and Document)	
02353ABJ	CR8B0BKPDCC1	NetEngine 8000 M14 Integrated DC Chassis Components (Including 2*DC Power,Fan Box)	
02353ABK	CR8B0BKPACC2	NetEngine 8000 M14 Integrated AC Chassis Components (Including 4*AC Power,Fan Box)	
02353VMM	CR8B0BKPACC1	NetEngine 8000 M14 Integrated AC Chassis Components (Including 2*AC Power,Fan Box)	
02354EDP	CR8P02BASDC7	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-2T-B, 2*DC	
BOM Number	Order Name	Description	Remarks



		Power,without Software Charge and Document)	
02354EDR	CR8P02BASDC9	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2-B, 2*DC Power,without Software Charge and Document)	
02354EDT	CR8P02BASDCB	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2-BN, 2*DC Power,without Software Charge and Document)	
02354EDW	CR8P02BASAC7	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-2T-B, 4*AC Power,without Software Charge and Document)	
02354EDY	CR8P02BASAC9	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2-B, 4*AC Power,without Software Charge and Document)	
02354EEB	CR8P02BASACB	NetEngine 8000 M14 Basic Configuration (Includes NetEngine 8000 M14 Chassis,2*IPU-1T2-BN, 2*AC Power,without Software Charge and Document)	
03033FPV	CR8D0IPU2TC1	Integrated Network Processing Unit (IPU-2T)	
03033GRW	CR8DIPU1T2C3	Integrated Network Processing Unit (IPU-1T2)	
03033NRF	CR8DIPU1T2C5	Integrated Network Processing Unit (IPU-1T2-A)	
03034BMA	CR8D0IPU2TC3	Integrated Network Processing Unit (IPU-2T-B)	
03034BMD	CR8DIPU1T2C7	Integrated Network Processing Unit (IPU-1T2-B)	
03034BMF	CR8DIPU1T2C9	Integrated Network Processing Unit (IPU-1T2-BN)	
03033JNE	CR8M002FBXC1	NetEngine 8000 M14 Fan Box	
03025PJJ	DP52PDC2K4A1	Power Interface Board	
02312QXK	ETP4860-4KW	AC Power Box	
02131663	PAC1K5S53-AL	AC-DC Power,- 40degC,65degC,90V,264V,53.5V/28.04A	
03025PHF	DP52APIUCA00	AC Power Interface Unit Converting Board	

## Interface Cards

BOM	Order Name	Description	IPUA-1T2/ IPUA-2T	IPUA-1T2-A
03033BLN	CR5D00LAXF91	10-Port 10GE/GE LAN/WAN-SFP+ MACsec Physical Interface Card(PIC)	•	•
03033BLM	CR5D00E8XM25	8-Port 25GE(SFP28)/10GE(SFP+) MACsec Physical Interface Card (PIC)	•	/
03033BLK	CR5D00E4XM25	4-Port 25GE(SFP28)/10GE(SFP+) MACsec Physical Interface Card (PIC)	•	/

03033GDR	CR5D0E5XMF94	2-Port 50GBase/1-Port 100GBase-QSFP28 FlexE MACsec Physical Interface Card(PIC)	•	•
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BOM	Order Name	Description	IPIUA-1T2/ IPIUA-2T	IPIUA-1T2-A
03033GDS	CR5DE2NE4X14	2-Port 100GBase/50GBase-QSFP28 FlexE MACsec Interface Card(PIC)	•	/
03033FXE	CR5D00EAGF95	10-port 100/1000Base-X-SFP MACsec Physical Interface Card(PIC)	•	/
03033GGD	CR5D000DE1C1	16-Port E1 Physical Interface Card(PIC,75ohm/120ohm)	•	•
03033GGE	CR5D00P4CFC1	4-Port OC-3c/STM-1c POS-SFP Flexible Interface Card(PIC)	•	•
03033GGF	CR5D00C4CFC1	4-Port Channelized STM-1c POS-SFP Physical Interface Card(PIC)	•	•
03033GMU	CR5D00EEGF73	20-Port 100/1000Base-X-CSFP/10-Port 100/1000Base-X-SFP Physical Interface Card(PIC)	•	•
03033FXF	CR5D00L4XF91	4-Port 10GE(SFP+)/GE(SFP) MACsec Physical Interface Card(PIC)	•	•
03033HAF	CR5D00E1NC97	1-Port 100GE/ 1-Port 200GE CFP2 Physical Interface Card(PIC) (Enable 1*100GE by default)	•	/
03032TGR	CR2D000SA890	8-Channel V.35/X.21/V.24 Board	•	•
03032TGS	CR2D00MP8A90	4 Channels C37.94 Optical Interface and 4 Channels CoDir64K Electric Interface Board	•	•
03032TGP	CR2D00MPAA90	4-Channel FXS/FXO+2-Channel E&M+2-Channel RS232+2-Channel RS485 Board	•	•
03032VFA	CR2D000EM890	6 Channels E&M Interface Board	•	•
03033VMB	CR8D00L4XFC1	4-Port 10G-SFP+ Physical Interface Card(PIC)	•	•
03033VMC	CR8DE1NE2VC1	2-Port 50GBase/1-Port 100GBase-QSFP28 Physical Interface Card(PIC)	•	•

03033VME	CR8D00E4YBC1	4-Port 25GE-SFP28 Physical Interface Card (PIC)	•	/
03030QCQ	CR2D000IE110	32-Port E1 Physical Interface Card(75ohm)	•	•
03030QCP	CR2D000IE111	32-Port E1 Physical Interface Card(120ohm)	•	•
03030RFA	CR2D000DE110	16-Port E1 Physical Interface Card(75ohm)	•	•
BOM	Order Name	Description	IPIUA-1T2/ IPIUA-2T	IPIUA-1T2-A
03030REY	CR2D000DE111	16-Port E1 Physical Interface Card(120ohm)	•	•
03031DHB	CR2D00E8GE12	8-Port 100/1000Base-RJ45 Physical Interface Card	•	•
03031DJK	CR2D00EAGF10	10-Port 100/1000Base-X-SFP Physical Interface Card	•	•
03033YLL	CR8D00P8CFC1	8-Port STM-1c/8-Port STM-4c POS Card (PIC)(Default Enable 4*STM-1c)	•	•

## RTU

BOM Number	Order Name	Description	Remarks
88036WCF	CR8SM004S1C0	NetEngine 8000 M Series Flexible Card 4*155M POS Port Enable RTU	Matching 03033YLL
88036WCG	CR8SM004S4C0	NetEngine 8000 M Series Flexible Card 4*622M POS Port Enable RTU	Matching 03033YLL

## Software Configuration

### Software License for NetEngine 8000 M14

BOM Number	Order Name	Description	Remarks
88035YLU	N1-N8KM14F-LIC	N1-NetEngine 8000 Series M14 Foundation SW License	
88035YLV	N1-N8KM14A-LIC	N1-NetEngine 8000 Series M14 Advanced SW License	
88036AXR	N1-N8KM14F2A-LIC	N1-NetEngine 8000 M14 Series Foundation to Advanced SW License	

88035YLW	N1-N8KM14TMSY-LIC	N1-NetEngine 8000 M14 Series Time Synchronization Function License	
88035YLX	N1-N8KM14SRV6-LIC	N1-NetEngine 8000 M14 Series SRv6 Function License	
88035YLY	N1-N8KM14SLI-LIC	N1-NetEngine 8000 M14 Series Port Slicing Function License	
88035YMA	N1-N8KM14MACS-LIC	N1-NetEngine 8000 M14 Series MACSec Function License	
BOM Number	Order Name	Description	Remarks
88036BYC	N1-N8KM14IPS-LIC	N1-NetEngine 8000 M14 Series IPSec Function License	
88035YMB	N1-N8KM14BNG-LIC	N1-NetEngine 8000 M14 Series BNG Function License	
88036BUN	N1-N8KM14S1K-LIC	N1-NetEngine 8000 M14 Series Subscribers Quantity(1k Subscribers)	
88060THG	N1-N8KM14FSNS1Y	N1-NetEngine 8000 M14 Series Foundation SW License SnS(1 year)	
88060THJ	N1-N8KM14ASNS1Y	N1-NetEngine 8000 M14 Series Advanced SW License SnS(1 year)	
88060UES	N1-N8KM14F2ASNS1Y	N1-NetEngine 8000 M14 Series Foundation to Advanced SW License SnS(1 year)	
88060THL	N1-N8KM14TMSYSNS1Y	N1-NetEngine 8000 M14 Series Time Synchronization Function License SnS(1 year)	
88060THN	N1-N8KM14SRV6SNS1Y	N1-NetEngine 8000 M14 Series SRv6 Function License SnS(1 year)	
88060THQ	N1-N8KM14SLISNS1Y	N1-NetEngine 8000 M14 Series Port Slicing Function License SnS(1 year)	
88060THT	N1-N8KM14MACSSNS1Y	N1-NetEngine 8000 M14 Series MACSec Port Function License SnS(1 year)	
88060UVY	N1-N8KM14IPSSNS1Y	N1-NetEngine 8000 M14 Series IPSec Port Function License SnS(1 year)	
88060THW	N1-N8KM14BNGSNS1Y	N1-NetEngine 8000 M14 Series BNG Function License SnS(1 year)	

## Documents

Documents for NetEngine 8000 M14

BOM Number	Order Name	Description	Remarks
31180BHS	CR8I8CDOCEC0	HUAWEI NetEngine 8000 M14 and M8 Series Router Product Documentation	

## Optical/Electrical Transceivers

### 100Gbps Optical Transceiver

BOM Number	Order Name	Description	Remarks
02311NTY	OMND10N13	High Speed Transceiver,QSFP28,850nm,100G,-8.4dBm,2.4dBm,-10.3dBm,MPO,MM,0.1km,OM4	
02311QDH	OSN020N15	High Speed Transceiver,QSFP28,1310nm,4*25GBase,-	
BOM Number	Order Name	Description	Remarks
		6.5dBm,2.5dBm,-9.8dBm,LC/PC,2km (100GBASE-CWDM4)	
02312BSS	OSN010N24	High Speed Transceiver,QSFP28,1310nm,100G,-4.3dBm,4.5dBm,-8.6dBm,LC,SMF,10km	
02312AUE	OSN030N05	High Speed Transceiver,QSFP28,1310nm,100G,-2.5dBm,2.9dBm,-21.4dBm,LC,SMF,30km	
02312NCX	QSFP28-100G-1310nm-80km-SM	High Speed Transceiver,QSFP28,1310nm,100G,3dBm,6.5dBm,-30dBm,LC,SMF,80km	
02310WUR	OSN010N09	High Speed Transceiver,CFP2,4*25Gb/s(1310nm Band),103.125Gb/s,-4.3dBm,4.5dBm,10.6dBm,LC straight,SMF,10km	
02311FAP	OSN040N03	High Speed Transceiver,CFP2,1310nm,103.125Gb/s,-2.9dBm,2.9dBm,-21.4dBm,Straight LC,SMF,40km,OMA,100GBASE-ER4	
02312AXE	CFP2-100G-1310nm-80km-SM	High Speed Transceiver,CFP2,1310nm,103.125Gb/s,3dBm,6.5dBm,-30dBm,Stright LC,SMF,80km	
02312NDL	CFP2-CoherentDCO-100G-SM	High Speed Transceiver,CFP2,C extend band tunable,50GHz ITU grid,134.7Gbit/s,10dBm,1dBm,-30dBm,LC,SMF	

### 50Gbps Optical Transceiver

BOM Number	Order Name	Description	Remarks
02311YNR	OSL010N01	High Speed Transceiver,QSFP28,1311nm,50Gb/s,-4dBm,4.2dBm,-8.8dBm,LC,SMF,10km	
02312AXF	QSFP28-50G-1311nm-40km-SM	High Speed Transceiver,QSFP28,1310nm,53.125G,1.5dBm,8dBm,-15dBm,Stright LC,SMF,40km	

02312MLF	QSFP28-50G-1310nm-80km-SM	High Speed Transceiver,QSFP28,1311nm,50G,two-fiber bidirectional,80km	
02312EVV	QSFP28-50G-BIDI-10km-SM-1	BiDi Transceiver,QSFP28,1331nm(TX)/1271nm(RX),50G,-4.5dBm,4.2dBm,-8.9dBm,LC,10km	
02312EVW	QSFP28-50G-BIDI-10km-SM-2	BiDi Transceiver,QSFP28,1271nm(TX)/1331nm(RX),50G,-4.5dBm,4.2dBm,-8.9dBm,LC,10km	
02312EVX	QSFP28-50G-BIDI-40km-SM-2	BiDi Transceiver,QSFP28,1295nm(TX)/1309nm(RX),50G,1.5dBm,8dBm,-13.5dBm,LC,40km	
02312EVY	QSFP28-50G-BIDI-	BiDi	
BOM Number	Order Name	Description	Remarks
	40km-SM-1	Transceiver,QSFP28,1309nm(TX)/1295nm(RX),50G,1.5dBm,8dBm,-13.5dBm,LC,SMF,40km	

#### 40Gbps Optical Transceiver

BOM Number	Order Name	Description	Remarks
02310WUT	OMXD30009	High Speed Transceiver,QSFP+,1310nm,41.25Gbps,-7dBm,2.3dBm,-11.5dBm,LC,SMF,10km	
02310WUU	OMXD30010	High Speed Transceiver,QSFP+,850nm,41.25Gbps,7.6dBm,0.5dBm,-9.5dBm,MPO,MMF,0.15km	
02311NUA	OSM010N11	High Speed Transceiver,QSFP+,1310,41.25Gbps,-8.2dBm,0.5dBm,-12.6dBm,MPO,SM,10km	

#### 25Gbps SFP28 Optical Transceiver

BOM Number	Order Name	Description	Remarks
02312PDL	SFP28-25G-1310nm-10km-SM	High Speed Transceiver,SFP28,1310nm,25G,7dBm,2dBm,-11.3dBm,LC,SMF,10km	
02312PDK	SFP28-25G-850nm-0.1km-MM	High Speed Transceiver,SFP28,850nm,25G,-8.4dBm,2.4dBm,-10.3dBm,LC,MM,0.1km	
02312TVC	SFP28-25G-BIDI-10km-SM-3	BiDi Transceiver,SFP28,1270nm(Tx)/1330nm(Rx),25Gb/s,-4dBm,2dBm,-10.3dBm,LC,10km,-40~85degc	

02312TXG	SFP28-25G-BIDI-10km-SM-4	BiDi Transceiver,SFP28,1330nm(Tx)/1270nm(Rx),25Gb/s,-4dBm,2dBm,-10.3dBm,LC,10km,-40~85degc	
34061940-001	SFP28-25G-1310nm-300mSM	High Speed Transceiver,SFP28,1310nm,25G,7dBm,2dBm,-10.5dBm,LC,SMF,0.3km	

#### 10Gbps SFP+ Optical Transceiver

BOM Number	Order Name	Description	Remarks
S4017482	OSX040N03	Optical Transceiver(SFP+,850nm,10Gb/s,-7.3~1dBm,-11.1dBm,LC, MM,0.3km)	
S4017483	OSX001002	Optical Transceiver(SFP+,1310nm,10Gb/s,-8.2~0.5dBm,-12.6dBm,LC,SM,10km)	
S4017484	OMXD30002	Optical Transceiver(SFP+,1550nm,9.95~11.1Gb/s,4.7~4dBm,-14.1dBm,LC,SM,40km)	
02310PVU	OSX080N04	Optical	
BOM Number	Order Name	Description	Remarks
		Transceiver(SFP+,1550nm,9.953~10.3125Gb/s,0~4dBm,-24dBm,LC,SM,80km)	

#### 1.25/9.953/10.3125Gbps SFP+ Optical Transceiver

BOM Number	Order Name	Description	Remarks
34061042	OSX010N13	XFP SFP+ Transceiver-SFP+-1310nm-10G/1G--8.2dbm-0.5dbm-Single-mode-14.4dbm-LC-10km	

#### 1.25Gbps eSFP Optical Transceiver

BOM Number	Order Name	Description	Remarks
S4017307	OMGD50N02	Optical Transceiver(eSFP,850nm,2.125Gb/s(Multi rate),-9.5~-2.5dBm,-17dBm,LC,MM,0.5km)	
S4016067	OSG010N05	Optical transceiver(eSFP,1310nm,1.25Gb/s,-9~3dBm,-20dBm,LC,Single Mode,10km)	
S4016954	OSG040002	Optical Transceiver(eSFP,1310nm,1.25Gb/s,5~0dBm,-23dBm,LC,SM,40km)	
02310RAW	OSG080N01	Optical Transceiver,eSFP,1550nm,1.25Gb/s,2~5dBm,-23dBm,LC,SM,80km	

#### 1.25Gbps eSFP BIDI Optical Transceiver

BOM Number	Order Name	Description	Remarks
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34060470	SFP-GE-LX-SM1310-BIDI	Optical Transceiver,ESFP,Tx1310/Rx1490,1.25Gb/s,3dBm,-9dBm,-19.5dBm,LC,Single Mode,10km	
34060475	SFP-GE-LX-SM1490-BIDI	Optical Transceiver,ESFP,Tx1490/Rx1310,1.25Gb/s,3dBm,-9dBm,-19.5dBm,LC,Single Mode,10km	
34060539	OGEBIDI41	Optical Transceiver,eSFP,1310nm(Tx)/1490nm(Rx),1.25Gb/s,-2dBm,3dBm,-23dBm,LC,SM,40km	
34060540	OGEBIDI40	Optical Transceiver,eSFP,1490nm(Tx)/1310nm(Rx),1.25Gb/s,-2dBm,3dBm,-23dBm,LC,SM,40km	

#### 1.25Gbps CSFP BIDI Optical Transceiver

BOM Number	Order Name	Description	Remarks
02312WHD	O00CSFP25	BiDi Transceiver,CSFP,1490(Tx)/1310(Rx)nm,1.25Gb/s,-9dBm,-3dBm,-19.5dBm,LC,SM,10km	
02312WHC	OSG010007	BiDi Transceiver,CSFP,1310(Tx)/1490(Rx)nm,1.25Gb/s,-9dBm,-3dBm,-24dBm,LC,SMF,10km	
BOM Number	Order Name	Description	Remarks
02312WHB	OSG040008	BiDi Transceiver,CSFP,Tx1490/Rx1310nm,1.25Gb/s,-5dBm,0dBm,-25dBm,LC(-40~85),SM,40km	
02312WHA	OSG010005	Integrated Optical Transmitting and Receiving Module,CSFP,Transmitting:1490nm,Receiving:1310nm,1.25Gb/s,-9.0dBm,-3.0dBm,-24dBm,LC,GE/FE autonegotiation	

#### 1Gbps Electrical Transceiver

BOM Number	Order Name	Description	Remarks
02310VPT	OEGD01N02	Optical functional module,1000BASE-T -SFP RJ45Electrical Module,Auto Negotiate,100m ,40~85degC	

#### 155Mbps eSFP Optical Transceiver

BOM Number	Order Name	Description	Remarks
S4015755	eSFP-FE-LXSM1310	Optical Transceiver(eSFP,1310nm,STM1,-15dBm~-8dBm,-31dBm,Singlemode,LC,15Km)	
S4015715	eSFP-FE-LH40SM1310	Optical Transceiver(eSFP,1310nm,STM1,-5dBm~0dBm,-37dBm,Singlemode,LC,40Km)	
S4015716	eSFP-FE-LH80SM1550	Optical Transceiver(eSFP,1550nm,STM1,-5dBm~0dBm,-37dBm,Singlemode,LC,80Km)	

#### 622M SFP/eSFP Optical Transceiver



BOM Number	Order Name	Description	Remarks
S4015760	OSH015N05	Optical Transceiver(eSFP,1310nm,STM4,-15dBm~-8dBm,-30dBm,Singlemode,LC,15Km)	
S4015713	eSFP-1310nm-L-4.1	Optical Transceiver(eSFP,1310nm,STM4,-3dBm~2dBm,-30dBm,Singlemode,LC,40km)	
02310QXT	OSH080N01	Optical Transceiver,eSFP,1550nm,STM4,3~2dBm,-30dBm,LC,SM,80km	

#### 155Mbps eSFP BIDI Optical Transceiver

BOM Number	Order Name	Description	Remarks
02310QNG	OSC015B01	Optical transceiver,eSFP,Tx 1310nm/Rx 1550nm,155M,-8dBm,-15dBm,32dBm,LC/PC,SM,15km	
02310QNH	OSC015B02	Optical transceiver,eSFP,Tx 1550nm/Rx 1310nm,STM1,-8dBm,-15dBm,-32dBm,LC/PC,SM,15km	

#### PCM Subcard Matching Module

BOM Number	Order Name	Description	Remarks
34060588	OSC002B01	Optical Transceiver,eSFP,1310nm,2.048Mb/s,-15dBm,-8dBm,-26dBm,LC,SM,2km	

## Software Upgrade Paths

Visit [Software Upgrade Paths](#) to get VRP software release version or patches.

## For More Information


For more information about the NetEngine 8000 M14 Series Routers, visit <http://e.huawei.com> or contact us in the following ways:

- Global service hotline:<http://e.huawei.com/en/service-hotline>
- Logging into the Huawei Enterprise technical support web: <http://support.huawei.com/enterprise/>
- Sending an email to the customer service mailbox: [support\\_e@huawei.com](mailto:support_e@huawei.com)

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