

NetEngine 8000 F1A Service Router

Overview

NetEngine 8000 F1A is a high-density compact box router designed for the cloud era. It's feature for its 1U height, and up to 1.2T port capacity, flexible combination of up to 56 ports (100GE, 50GE, 25GE, 10GE, GE ports), which is highest density in the industry. It also supports features such as SRv6, EVPN, and 1588v2 high-precision clock. It support wire speed L2 and L3 forwarding. The compact design of 400 mm saves precious resources, greatly reduces Capex, and protects existing investments. It is the best choice for high-density bearer in the future cloud era.

[NetEngine 8000 F1A Service Router](#)



NetEngine 8000 F1A



NetEngine 8000 F1A (DC)



NetEngine 8000 F1A (AC)

Product Features

[Table 2-1](#) lists the features of Huawei NetEngine8000 F1A router.

[Features of Huawei NetEngine8000 F1A Router](#)

Features	Description
L2	IEEE 802.1q, IEEE 802.1p, IEEE 802.3ad, IEEE 802.1ab, STP/RSTP/MSTP, LACP, G.8032, QinQ, Jumbo Frame 9600 bytes, L2 protocol tunnel
L3	OSPF, RIP, IS-IS, BGP, ACL, IPv4, 6VPE
MEF	<ul style="list-style-type: none"> • E-LINE: EPL, EVPL • E-LAN: EP-LAN, EVP-LAN
MPLS	LDP, RSVP-TE, L2VPN (VPLS, HVPLS, and VLL), L3VPN, MPLS-TE and seamless MPLS
SRv6/EVPN	IS-IS for SRv6, OSPFv3 for SRv6, SRv6 TE Policy, SRv6 TE Policy Shortcut, SRv6 Flex-Algo, SRv6 SRH Compression, SRv6 Network Slicing BGP for SRv6, SRv6 BE, SBFD for SRv6 BE, SRv6 TI-LFA FRR, SRv6 middle-node

Features	Description
	protection, SRv6 micro-loop avoidance, SRv6 OAM, SRv6 SFC, G-SRv6 EVPN E-LAN/E-Line/E-Tree/EP-Tree/EVP-Tree, EVPN L3VPN, EVPN VXLAN, PBB EVPN
VAS	BNG/BRAS, IPsec, MACsec
Multicast	IGMP, Static Multicast Routing, PIM-SM/SSM, MBGP, NG MVPN, BIERv6
QoS	5-level HQoS, QPPB, Differ-Serv, Redirection, Traffic classification & marking&scheduling
OAM	Telnet, SSHv1/v2, Command Line Configuration AAA radius and TACACS SNMP v1/v2c/v3 iFIT IPPFPM NQA TWAMP BFD MPLS OAM MPLS-TP OAM VRRP Ethernet OAM 802.3ah 802.1ag Y.1731 Syslog NetConf Yang
IS-IS	1M
OSPF	1M
IPv4 FIB	4M
IPv6 FIB	2M
ACL	32K

Product Specifications

Item	NetEngine 8000 F1A
Dimensions (H x W x D)	44 mm x 442 mm x 420 mm (1.73 in. x 17.40 in. x 16.54 in.) (1U)
Weight without packaging (full configuration)	DC: 8.4 kg (18.52 lb) AC: 8.75 kg (19.29 lb)
Cabinet installation standard	IEC 19-inch

Item	NetEngine 8000 F1A
Typical power consumption	325 W
Typical heat dissipation	1054.44 BTU/Hour
DC input voltage	<ul style="list-style-type: none"> • Input voltage range:-40 V to -72 V • Input rated voltage: -48 V/-60 V
AC input voltage	<ul style="list-style-type: none"> • Input voltage range: 90 V to 290 V • Input rated voltage: 100 V to 240 V
MTBF	DC: 25.52 years AC: 25.65 years
MTTR	0.5 hours
Availability	0.9999996143
Redundant fans	3+1, if a single fan fails, the system can still work for a short period of time at an ambient temperature of 40°C. Support hot-swappable
Redundant power supply	Supports two power input backup and hot-swappable
Switching capacity	1.2T bit/s full duplex
Interface packet buffer	18.5MB
Management Port	Out of Band Ethernet management port, Console port
Long-term operating temperature	<ul style="list-style-type: none"> • Front to back (port-side intake): -5°C to +45°C • Back to front (port-side exhaust): -5°C to +40°C • Remarks: The temperature change rate limit is 30°C/hour.
Short-term operating temperature	N/A
Restriction on the operating temperature variation rate	Restriction on the temperature variation rate: 30°C/hour (86°F/hour).
Storage temperature	-40 °C to +70 °C (-40°F to +158°F)
Long-term operating relative humidity	5% to 90% RH, non-condensing
Short-term operating relative humidity	5% to 95% RH, non-condensing
Relative storage humidity	5% to 95% RH, non-condensing
Long-term operating altitude	Front to back (port-side intake): 1800 meters at the temperature of 45°C Back to front (port-side exhaust): 1800 meters at the temperature of 40°C <= 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 device must decrease by 1°C [33.8°F] for every 220 m [721.78 ft.].)
Storage altitude	Lower than 5000 meters (16404 ft.)
Regulatory compliance	<p>EMC</p> <ul style="list-style-type: none"> • EN 55032 • CISPR 32 • EN 55024 • CISPR 24 • ETSI EN 300 386

Item	NetEngine 8000 F1A
	<ul style="list-style-type: none"> • ETSI ES 201 468 • VCCI-CISPR 32 • AS/NZS CISPR 32 • IEC 61000-3-2 • IEC 61000-3-3 • IEC 61000-6-2 • IEC 61000-6-4 • 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 <p>Environment</p> <ul style="list-style-type: none"> • ETSI EN 300 019-1-1 • ETSI EN 300 019-1-2 • ETSI EN 300 019-1-3 • ETSI EN 300 019-2-1 • ETSI EN 300 019-2-2 • ETSI EN 300 019-2-3 • ETSI EN 300753 • GB/T 2423.26-2008 • IEC 60068-2-1 • IEC 60068-2-14 • IEC 60068-2-2 • IEC 60068-2-27 • IEC 60068-2-30 • IEC 60068-2-31 • IEC 60068-2-6 • IEC 60068-2-64 • IEC 60068-2-78 • ISO 7779 • ISTA 2A <p>Safety</p> <ul style="list-style-type: none"> • IEC/EN/UL/CSA 60950-1 • IEC/EN 62368-1 <p>Environmental protection</p>

Item	NetEngine 8000 F1A
	<ul style="list-style-type: none"> • 2011/65/EU & (EU)2015/863 (EU RoHS) • Regulation (EC) No.1907/2006 (REACH) • 2012/19/EU (WEEE) • 2006/66/EC & 2013/56/EU on batteries and accumulators

NOTE

- Regarding the physical dimensions provided in the table, the width (W) does not take mounting ears into account.
- Temperature and humidity are measured at 1.5 m (4.92 ft.) above the ground 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 an 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 F1A Basic Configurations

Order Name	Description	Remarks
CR8PF1ABASC2	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*DC Power,Port-side Intake,without Software and Document)	
CR8PF1ABASC3	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*AC Power,Port-side Intake,without Software and Document)	
CR8PF1ABASC8	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*DC Power,Port-side Exhaust,without Software and Document)	
CR8PF1ABASC9	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*AC Power,Port-side Exhaust,without Software and Document)	
CR8PF1ABAPC7	NetEngine 8000 F1A-8H20Q Basic Configuration Bundle (Includes F1A-8H20Q Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),DC+AC Power,Port-side Intake,without Software and Document)	
CR8PF1ABAPC8	NetEngine 8000 F1A-8H20Q Basic Configuration Bundle (Includes F1A-8H20Q Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),DC+AC Power,Port-side Exhaust,without Software and Document)	

Order Name	Description	Remarks
CR8PF1ABASCC	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*DC Power,Port-side Intake,without Software and Document)	
CR8PF1ABASCJ	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*AC Power,Port-side Intake,without Software and Document)	
CR8PF1ABASCK	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*DC Power,Port-side Exhaust,without Software and Document)	
CR8PF1ABASCL	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*AC Power,Port-side Exhaust,without Software and Document)	
CR8PF1ABAPCF	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),DC+AC Power,Port-side Intake,without Software and Document)	
CR8PF1ABAPCG	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),DC+AC Power,Port-side Exhaust,without Software and Document)	
CR8PF1BASDD2	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*DC Power,Port-side Intake,without Software and Document)	
CR8PF1BASDD3	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*DC Power,Port-side Exhaust,without Software and Document)	
CR8PF1BASAD2	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*AC Power,Port-side Intake,without Software and Document)	
CR8PF1BASAD3	NetEngine 8000 F1A Basic Configuration Bundle (Includes F1A Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),2*AC Power,Port-side Exhaust,without Software and Document)	
CR8PF1BASCD2	NetEngine 8000 F1A-8H20Q Basic Configuration Bundle (Includes F1A-8H20Q Chassis, Fixed Interface(8*100GE+20*25GE+28*10GE),DC+AC Power,Port-side Intake,without Software and Document)	
CR8PF1BASCD3	NetEngine 8000 F1A-8H20Q Basic Configuration Bundle (Includes F1A-8H20Q Chassis, Fixed	

Order Name	Description	Remarks
	Interface(8*100GE+20*25GE+28*10GE),DC+AC Power,Port-side Exhaust,without Software and Document)	
CR8PF1BASDDC	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*DC Power,Port-side Intake,without Software and Document)	
CR8PF1BASDDK	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*DC Power,Port-side Exhaust,without Software and Document)	
CR8PF1BASADJ	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*AC Power,Port-side Intake,without Software and Document)	
CR8PF1BASADL	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),2*AC Power,Port-side Exhaust,without Software and Document)	
CR8PF1BASCDF	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),DC+AC Power,Port-side Intake,without Software and Document)	
CR8PF1BASCDG	NetEngine 8000 F1A Basic Configuration CM (Includes F1A Chassis, Fixed Interface(Enable 8*40GE+10*10GE+28*GE),DC+AC Power,Port-side Exhaust,without Software and Document)	

Software Configuration

License

BOM	Description	Remarks
88035YMT	N1-NetEngine 8000 F1 Series Foundation SW License	
88035YMU	N1-NetEngine 8000 F1 Series Advanced SW License	
88036AXU	N1-NetEngine 8000 F1 Series Foundation to Advanced SW License	
88037CUG	N1-NetEngine 8000 F Series iFIT Enhanced Function License	
88037CUV	N1-NetEngine 8000 F Series Smart OAM Function License	
88037GDV	N1-NetEngine 8000 F Series iFIT Flow Scales License(1K Flows)	
88035YMV	N1-NetEngine 8000 F1 Series Time Synchronization Function License	
88035YMW	N1-NetEngine 8000 F1 Series SRv6 Function License	

BOM	Description	Remarks
88035YMX	N1-NetEngine 8000 F1 Series Port Slicing Function License	
88036FKX	N1-NetEngine 8000 F1 Series BNG Function License	
88036FKY	N1-NetEngine 8000 F1 Series Subscribers Quantity(1k Subscribers)	
88036UQN	N1-NetEngine 8000 F1 Series IPSec Function License	
88060TKA	N1-NetEngine 8000 F1 Series Foundation SW License SnS(1 year)	
88060TKC	N1-NetEngine 8000 F1 Series Advanced SW License SnS(1 year)	
88060UEU	N1-NetEngine 8000 F1 Series Foundation to Advanced SW License SnS(1 year)	
88061USC	N1-NetEngine 8000 F Series IFIT Enhanced Function License SnS	
88061USD	N1-NetEngine 8000 F Series Smart OAM Function License SnS	
88061YKM	N1-NetEngine 8000 F Series IFIT Flow Scales License SnS(1K Flows)	
88060TKE	N1-NetEngine 8000 F1 Series Time Synchronization Function License SnS(1 year)	
88060TKG	N1-NetEngine 8000 F1 Series SRv6 Function License SnS(1 year)	
88060TKJ	N1-NetEngine 8000 F1 Series Port Slicing Function License SnS(1 year)	
88061DRM	N1-NetEngine 8000 F1 Series BNG Function License SnS(1 year)	
88061QXX	N1-NetEngine 8000 F1 Series IPSec Function License SnS(1 year)	
88036QRD	NetEngine 8000 F1 Series 1*100GE port upgrade RTU	
88036QLD	NetEngine 8000 F1 Series 5* 25GE port upgrade RTU(10GE upg to 25GE)	
88036QLE	NetEngine 8000 F1 Series 10*10GE upgrade RTU	
88036QRF	NetEngine 8000 F1 Series 4*10GE upgrade RTU	
88037ASY	NetEngine 8000 F Series Private Network Slicing RTU(per 2-slice RTU)	
88037ATA	NetEngine 8000 F Series Private Line Slicing RTU(per 16-slice RTU)	

Optical/Electrical Transceivers

1Gbps electrical module

Order Name	Description	Remarks
OEGD01N02	1Gbps-SFP-100m-industry	

155Mbps eSFP optical module

Order Name	Description	Remarks
eSFP-FE-LX-SM1310	155Mbps-eSFP-SMF-1310nm-15km-commercial	
eSFP-FE-LH40-SM1310	155Mbps-eSFP-SMF-1310nm-40km-commercial	
eSFP-FE-LH80-SM1550	155Mbps-eSFP-SMF-1550nm-80km-commercial	

1.25Gbps eSFP optical module

Order Name	Description	Remarks
OSG010N05	1.25Gbps-eSFP-SMF-1310nm-10km-commercial	
OSG080N01	1.25Gbps-eSFP-SMF-1550nm-80km-commercial	

1.25Gbps eSFP BIDI optical module

Order Name	Description	Remarks
SFP-GE-LX-SM1310-BIDI	1.25Gbps-eSFP-SMF-1310nm-10km-commercial	
SFP-GE-LX-SM1490-BIDI	1.25Gbps-eSFP-SMF-1490nm-10km-commercial	
OGEBIDI40	1.25Gbps-eSFP-SMF-1490nm-40km-commercial	
OGEBIDI41	1.25Gbps-eSFP-SMF-1310nm-40km-commercial	
OGEBIDI82	BiDi Transceiver,eSFP,1550nm(Tx)/1490nm(Rx),1.25Gbps,-2dBm,5dBm,-26dBm,LC,SM,80km	
OGEBIDI83	BiDi Transceiver,eSFP,1490nm(Tx)/1550nm(Rx),1.25Gbps,-2dBm,5dBm,-26dBm,LC,SM,80km	

1.25/9.953/10.3125Gbps SFP+ optical module

Order Name	Description	Remarks
OSX010N13	1.25/9.953/10.3125Gbps-SFP+-SMF-1310nm-10km-commercial	

10Gbps SFP+ optical module

Order Name	Description	Remarks
OSX040N03	Optical Transceiver(SFP+,850nm,10Gb/s,-7.3~-1dBm,-9.9dBm,LC, MM, 0.3km)	
OSX001002	Optical Transceiver(SFP+,1310nm,10Gb/s,-8.2~0.5dBm,-12.6dBm,LC, SM,10km)	
OSX010N13	XFP SFP+ Transceiver-SFP+-1310nm-10G/1G--8.2dbm-0.5dbm-Single-mode-14.4dbm-LC-10km	
OMXD30002	Optical Transceiver(SFP+,1550nm,9.95~11.1Gb/s,-4.7~4dBm,-14.1dBm, LC,SM,40km)	

25Gbps SFP28 optical module

Order Name	Description	Remarks
SFP28-25G-1310nm-300m-SM	SFP28-25G-1310nm-300m-SMHigh Speed Transceiver,SFP28,1310nm, 25G,-7dBm,2dBm,-10.5dBm,LC,SMF,0.3km	

40Gbps QSFP+ optical module

Order Name	Description	Remarks
OMXD30010	High Speed Transceiver,QSFP+,850nm,41.25Gbps,-7.6dBm, 0.5dBm,-9.5dBm,MPO,MMF,0.15km	
OMMD15N01	QSFP-40G-LX4-MM,40GBase-LX4-MM Optical Transceiver,QSFP+,40GE,Multi-mode(1310nm,0.15km,LC)	

50Gbps QSFP28 BIDI optical module

Order Name	Description	Remarks
QSFP28-50G-BIDI-10km-SM-2	BiDi Transceiver,QSFP28,1271nm(TX)/1331nm(RX),50G,-4.5dBm, 4.2dBm,-8.9dBm,LC,10km	
QSFP28-50G-BIDI-10km-SM-1	BiDi Transceiver,QSFP28,1331nm(TX)/1271nm(RX),50G,-4.5dBm, 4.2dBm,-8.9dBm,LC,10km	
QSFP28-50G-BIDI-40km-SM-2	BiDi Transceiver,QSFP28,1295nm(TX)/1309nm(RX),50G,1.5dBm,8dBm, -13.5dBm,LC-SMF-40km	
QSFP28-50G-BIDI-40km-SM-1	BiDi Transceiver,QSFP28,1309nm(TX)/1295nm(RX),50G,1.5dBm,8dBm, -13.5dBm,LC,SMF,40km	

50Gbps QSFP28 optical module

Order Name	Description	Remarks
OSL010N01	50Gbps-QSFP28-SMF-1311nm-10km-commercial	
QSFP28-50G-1311nm-40km-SM	50Gbps-QSFP28-SMF-1311nm-40km-commercial	
QSFP28-50G-1310nm-80km-SM	High Speed Transceiver-QSFP28-1310nm-50G-9.5dBm--30dBm-LC-SMF-80km	

100Gbps QSFP28 optical module

Order Name	Description	Remarks
OMND10N13	High Speed Transceiver,QSFP28,850nm,100G,-8.4dBm,2.4dBm,-10.3dBm,MPO,MM,0.1km,OM4	
OSN020N15	High Speed Transceiver,QSFP28,1310nm,4*25GBase,-6.5dBm,2.5dBm,-9.8dBm,LC/PC,2km (100GBASE-CWDM4)	
OSN010N24	High Speed Transceiver,QSFP28,1310nm,100G,-4.3dBm,4.5dBm,-8.6dBm,LC,SMF,10km	
QSFP28-100G-1310-40km-SM	High Speed Transceiver,QSFP28,1310nm,100G,-2.9dBm,2.9dBm,-20.9dBm,LC,40km	
QSFP28-100G-1310-80km-SM	High Speed Transceiver,QSFP28,1310nm,100G,2dBm,6.5dBm,-28dBm,LC,SMF,80km	
OSN010N22	High Speed Transceiver,QSFP28,1310,100GE,-2dBm,4.8dBm,-9.1dBm,LC,SMF,10km,PAM4	Interworking with the 4*100G breakout module (OSK010NM1).

For More Information

For more information about the NetEngine 8000 F1A service router, visit <https://e.huawei.com> or contact us in the following ways:

- Global service hotline: <https://e.huawei.com/en/service-hotline>
- Logging into the Huawei Enterprise technical support web: <https://support.huawei.com/enterprise/>
- Sending an email to the customer service mailbox: support_e@huawei.com

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