

# NE40E Series 120G Integrated Line Processing Units Sheet



## Product Overview

Huawei® NE40E Series Universal Service Routers support 120Gbps integrated line processing units (LPUI-120 Series and LPUI-120-B Series). Both the LPUI-120 Series and LPUI-120-B Series line processing units handle all the network data-plane traffic-processing tasks of Huawei NE40E series universal service routers.

Figure 1. 120G Integrated Line Processing Units



12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-120)



2-Port 40GBase LAN-CFP Integrated Line Processing Unit(LPUI-120)



6-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P120-A)



1-Port 100GBase-CFP Flexible Card A(P120-A)



2-Port 40GBase LAN-CFP Integrated Line Processing Unit B(LPUI-120-B)



1-Port 100GBase-CFP Integrated Line Processing Unit B(LPUI-120-B)



10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-120-E)



1-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-120)



1-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-120)



1-Port 100GBase-CFP2 Integrated Line Processing Unit B (LPUI-120-B)



1-Port 100GBase-QSFP28 Integrated Line Processing Unit B (LPUI-120-B)



6-Port 10GBase LAN/WAN-SFP+ + 8-Port 100/1000Base-X-SFP Integrated Line Processing Unit (LPUI-120)

## Product Features

NE40E Series 120G integrated line processing units includes 1-port 100GE, 2-port 40GE, and 10-Port/12-port 10GE line processing units, for flexible solution.

- port 100GE: has industry-leading 100G line-rate Ethernet interface, which can replace a large number of 10GE link aggregation bundles to simplify network operations.
- port 40GE: has 40G line-rate Ethernet interface, can be used to process traffic at the aggregation and core layers can resolve this problem by simplifying networks and reducing OPEX. It can be used at the data center egress routers or data center core/aggregation layer devices.
- 10-port/12-port 10GE : provides multiple 10 Gbit/s line-rate Ethernet interfaces and supports medium-scale 10 Gbit/s link aggregation.

These high-capacity integrated line processing units are designed to remove bandwidth bottlenecks that are caused by next-generation high-speed and high-requirement computing applications and technologies. These integrated line processing units provide economical, scalable, and reliable line-rate Ethernet and IP/MPLS services.

The 120G series integrated line processing units use Huawei-developed Solar chips and provide powerful service capability. The series integrated line processing units support the combination of IP, MPLS, Ethernet, L2VPN, and L3VPN services. In addition, the 120G series integrated line processing units support the 1588v2 feature, which allows for submicrosecond time synchronization based on specific hardware to ensure high-precision time synchronization between devices for applications and services that require 1588v2 clock synchronization, such as IP RAN and TDM migration. The 120G series integrated line processing units support IPv6, which helps implement smooth IPv4-to-IPv6 transition. The 120G series integrated line processing units have a flexible programmable architecture. Microcode programming can be used for new service deployment, without the need to replace hardware, which reduces investments. In addition, this architecture drastically shortens the technological innovation cycle and accelerates new service rollout, helping customers build flexible and scalable networks.

The 120G series integrated line processing units use Huawei-developed Solar chips and can dynamically change the number of forwarding chip processing cores, frequency, and bus bandwidth to compensate for service traffic changes, reducing boards' power consumption. The 120G Series line processing units also support dynamic frequency adjustment and intelligent fan speed adjustment, which significantly reduces power consumption, with less than 0.9 W for each gigabit, lowest in the industry.

#### NOTE

Differences between the LPUI-120, LPUI-120-B and LPUI-102-E:

- LPUI-120 supports 1588v2, and supports L3VPN by default; does not support BRAS functions, such as Enhanced Dynamic Service Gateway (EDSG), by default. After being loaded with specific license, it supports BRAS functions.
- LPUI-120-B supports 1588v2, and does not support L3VPN by default. After being loaded with specific license, it supports L3VPN. LPUI-120-B does not support BRAS functions.
- LPUI-102-E supports L3VPN by default and supports BRAS functions by default. LPUI-102-E does not support 1588v2.

## Product Compatibility

Table 1. 120G Integrated Line Processing Units Compatible Chassis ("•" indicates supported items, "-" indicates unsupported items).

BOM	Order Name	Description	X3	X8	X16	X3A	X8A	X16A
03054681	CR5DoLBXFA70	12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-120)	•	•	•	•	•	•
03054682	CR5DoE2MCA70	2-Port 40GBase LAN-CFP Integrated Line Processing Unit(LPUI-120)	•	•	•	•	•	•
03054683	CR5DooE1NC76	1-Port 100GBase-CFP Integrated Line Processing Unit (LPUI-120)	•	•	•	•	•	•
03054684	CR5DoLBXFA7B	12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-120-B)	•	•	•	•	•	•
03054685	CR5DoE2MCA7B	2-Port 40GBase LAN-CFP Integrated Line Processing Unit B(LPUI-120-B)	•	•	•	•	•	•
03054686	CR5DooE1NC7B	1-Port 100GBase-CFP Integrated Line Processing Unit B(LPUI-120-B)	•	•	•	•	•	•
03057087	CR5DLAXFAJ7F	10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-120-E)	•	•	•	•	•	•
03057445	CR5DooE1NC78	1-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-120)	•	•	•	•	•	•
03057482	CR5DooE1ND71	1-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-120)	•	•	•	•	•	•

BOM	Order Name	Description	X3	X8	X16	X3A	X8A	X16A
03057446	CR5DooE1NC7C	1-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-120-B)	●	●	●	●	●	●
03057483	CR5DooE1ND72	1-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-120-B)	●	●	●	●	●	●
03058052	CR5DL6XE8G70	6-Port 10GBase LAN/WAN-SFP+ + 8-Port 100/1000Base-X-SFP Integrated Line Processing Unit (LPUI-120)	●	●	●	●	●	●

Table 2. 120G Integrated Line Processing Units Compatible Optical/Electrical Modules

BOM	Order Name	Board Name	Optical type supported
03054681	CR5DoLBXF A70	12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-120)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module 1.25/9.953/10.3125Gbps SFP+ optical module
03054682	CR5DoE2M CA70	2-Port 40GBase LAN-CFP Integrated Line Processing Unit(LPUI-120)	40Gbps CFP optical module
03054683	CR5DooE1N C76	1-Port 100GBase-CFP Integrated Line Processing Unit (LPUI-120)	100Gbps CFP optical module
03057087	CR5DLAXFA J7F	10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-120-E)	10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module
03057445	CR5DooE1N C78	1-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-120)	100Gbps CFP2 optical module NOTE When optical modules with the BOM number 02311LYG are used, 2x40G and 10x10G breakout optical fibers are not supported.

BOM	Order Name	Board Name	Optical type supported
03054684	CR5DoLBXF A7B	12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-120-B)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module 1.25/9.953/10.3125Gbps SFP+ optical module
03054685	CR5DoE2M CA7B	2-Port 40GBase LAN-CFP Integrated Line Processing Unit B(LPUI-120-B)	40Gbps CFP optical module
03054686	CR5DooE1N C7B	1-Port 100GBase-CFP Integrated Line Processing Unit B(LPUI-120-B)	100Gbps CFP optical module
03057446	CR5DooE1N C79	1-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-120-B)	100Gbps CFP2 optical module NOTE When optical modules with the BOM number 02311LYG are used, 2x40G and 10x10G breakout optical fibers are not supported.
03057482	CR5DooE1N D71	1-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-120)	100Gbps QSFP28 optical module 40Gbps QSFP+ optical module
03057483	CR5DooE1N D72	1-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-120-B)	100Gbps QSFP28 optical module 40Gbps QSFP+ optical module
03058052	CR5DL6XE8 G70	6-Port 10GBase LAN/WAN-SFP+ + 8-Port 100/1000Base-X-SFP Integrated Line Processing Unit (LPUI-120)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module 1.25/9.953/10.3125Gbps SFP+ optical module

## Product Specifications

Table 3. 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-120) Specifications

Item	Specification
Order Name	CR5DoLBXFA70
Silkscreen	LPUI-120 12x10GBase LAN/WAN-SFP+ -A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	7.9 kg (17.42 lb)
Typical power consumption	201.7 W
Typical heat dissipation	654.3 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP/SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 4. 2-Port 40GBase LAN-CFP Integrated Line Processing Unit(LPUI-120) Specifications

Item	Specification
Order Name	CR5DoE2MCA70
Silkscreen	LPUI-120 2x40GBase LAN-CFP-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	9.6 kg (21.06 lb)
Typical power consumption	206.0 W
Typical heat dissipation	668.4 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 5. 1-Port 100GBase-CFP Integrated Line Processing Unit (LPUI-120) Specifications

Item	Specification
Order Name	CR5D00E1NC76
Silkscreen	LPUI-120 1x100GBase LAN-CFP-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	7.9 kg (17.42 lb)
Typical power consumption	200.7 W
Typical heat dissipation	651.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 6. 1-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-120) Specifications

Item	Specification
Order Name	CR5D00E1NC78
Silkscreen	LPUI-120 1x100GBase-CFP2-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8 kg (17.53 lb)
Typical power consumption	190.2 W
Typical heat dissipation	617.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP2
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 7. 1-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-120) Specifications

Item	Specification
Order Name	CR5D00E1ND71
Silkscreen	LPUI-120 1x100GBase-QSFP28-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	7.9 kg (17.42 lb)
Typical power consumption	184.2 W
Typical heat dissipation	597.6 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	QSFP28/QSFP+
Working mode	Full-duplex
Frame format	Ethernet_II,Ethernet_SAP,Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 8. 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-120-B) Specifications

Item	Specification
Order Name	CR5DoLBXFA7B
Silkscreen	LPUI-120-B 12x10GBase LAN/WAN-SFP+ -A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	7.9 kg (17.42 lb)
Typical power consumption	201.7 W
Typical heat dissipation	654.3 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP/SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.



Table 9. 2-Port 40GBase LAN-CFP Integrated Line Processing Unit B(LPUI-120-B) Specifications

Item	Specification
Order Name	CR5DoE2MCA7B
Silkscreen	LPUI-120-B 2x40GBase LAN-CFP-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	9.6 kg (21.06 lb)
Typical power consumption	206.0 W
Typical heat dissipation	668.4 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 10. 1-Port 100GBase-CFP Integrated Line Processing Unit B(LPUI-120-B) Specifications

Item	Specification
Order Name	CR5DooE1NC7B
Silkscreen	LPUI-120-B 1x100GBase LAN-CFP-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8.4 kg (18.63 lb)
Typical power consumption	200.7 W
Typical heat dissipation	651.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 11. 1-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-120-B) Specifications

Item	Specification
Order Name	CR5D00E1NC79
Silkscreen	LPUI-120-B 1x100GBase-CFP2-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8 kg (17.53 lb)
Typical power consumption	190.2 W
Typical heat dissipation	617.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	CFP2
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 12. 1-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-120-B) Specifications

Item	Specification
Order Name	CR5D00E1ND72
Silkscreen	LPUI-120-B 1x100GBase-QSFP28-A
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	7.9 kg (17.42 lb)
Typical power consumption	184.2 W
Typical heat dissipation	597.6 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	QSFP28/QSFP+
Working mode	Full-duplex
Frame format	Ethernet_II,Ethernet_SAP,Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 13. 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-120-E) Specifications

Item	Specification
Order Name	CR5DLAXFAJ7F
Silkscreen	LPUI-120-E 10x10GBase LAN/WAN-SFP+ -E
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8.2 kg (17.97 lb)
Typical power consumption	280.2 W
Typical heat dissipation	909.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 14. 6-Port 10GBase LAN/WAN-SFP+ + 8-Port 100/1000Base-X-SFP Integrated Line Processing Unit (LPUI-120) Specifications

Item	Specification
Order Name	CR5DL6XE8G70
Silkscreen	LPUI-120 6x10G LAN/WAN-SFP+ -8xGE-SFP
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8.2 kg (17.97 lb)
Typical power consumption	218.2 W
Typical heat dissipation	707.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP+/SFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

## Product Performance

Table 15. Performance of the LPUI-120/LPUI-120-B

Feature	Specification
FIB	IPv4: up to 4,096,000 routes IPv6: up to 2,048,000 routes Mixed: up to 2,048,000 IPv4 routes and 1,024,000 IPv6 routes
Multicast	IPv4: up to 64,000 routes IPv6: up to 8,000 routes
QoS	Up to 128,000 queues in total for the upstream and downstream Up to 5 levels of hierarchy Up to 100ms packet buffer time
Access Control List (ACL) rules	ACLv4: up to 64 * 1,024/slot(Only unidirectional transmission is supported.) ACLv6: up to 16 * 1,024/slot
IPoE/PPPoE subscribers	Up to 64,000 subscribers/slot
L2TP sessions	64,000/slot
L2TP tunnels	16,000/slot

## For More Information

For more information about the Huawei NE40E 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

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