



PLC Splitters



How broadband gets into homes & businesses

Ensure's signature PLC splitters can be crafted with various bandpasses, splitting ratios, fiber types and connector/packaging options. Every splitter is tested prior to shipment according to your specifications, with the strictest quality control procedures using calibrated test equipment.

We produce our own chips and wafers in our facilities and control the production process from beginning to end—ensuring premium quality for our customers.

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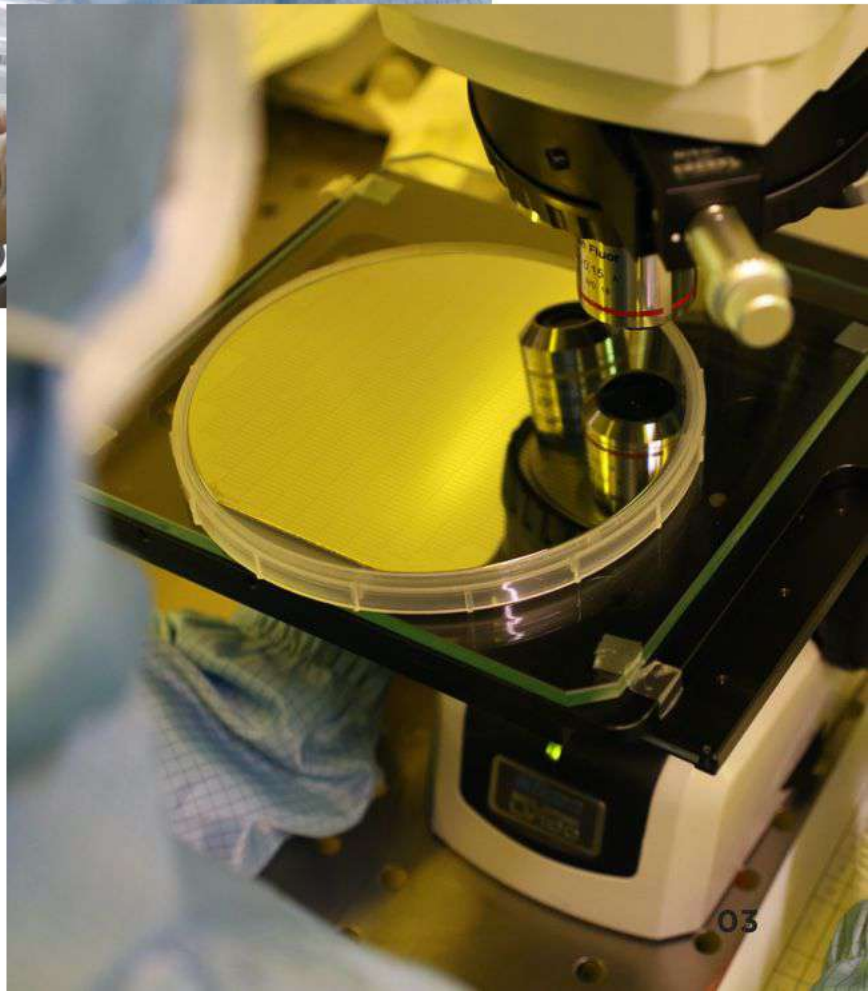
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PLC Wafers

With our engineers closely involved during production, Ensure's planar lightwave circuit (PLC) wafers are premium quality. Our wafers are crafted through the coating, lithography, and exchange of glass substrate, fabricated onto different channels of quartz (2-4-8-16-32-64). We assure the highest level of optical performance, with outstanding yield, stability, and reliability.



Main features:

- Outstanding optical performance
- Low PDL & IL
- Excellent uniformity/vibration/drop resistance
- Full bandwidth applications
- High reliability compliance with Telcordia-1209 & 1221, PCT environmental tests

Product information:

Parameter	Level	Unit	1x2	1x4	1x8	1x16	1x32	1x64
Operating Wavelength		nm	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650
Band spacing -> Pitch		nm	250	250	127	127	127	127
Insertion loss (max)	P	dB	3.5	6.7	9.8	13.0	16.2	19.6
	S	dB	3.7	7.0	10.2	13.5	16.5	19.8
PDL (max)	P	dB	0.15	0.15	0.2	0.2	0.2	0.2
	S	dB	0.2	0.2	0.2	0.25	0.25	0.3
Uniformity (max)	P	dB	0.5	0.5	0.6	0.7	1.0	1.5
	S	dB	0.5	0.6	0.5	1.0	1.2	1.5
Return loss (min)		dB	55	55	55	55	55	55
Directivity (min)		dB	55	55	55	55	55	55
Working temperature		°C	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85
Storage temperature		°C	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85
Chip size		mm	9.5	9.5	9.9	13.4	17.8	23.4
		mm	2.5	2.5	2.5	2.65	4.69	8.75
		mm	2	2	2	2	2	2



PLC Chip

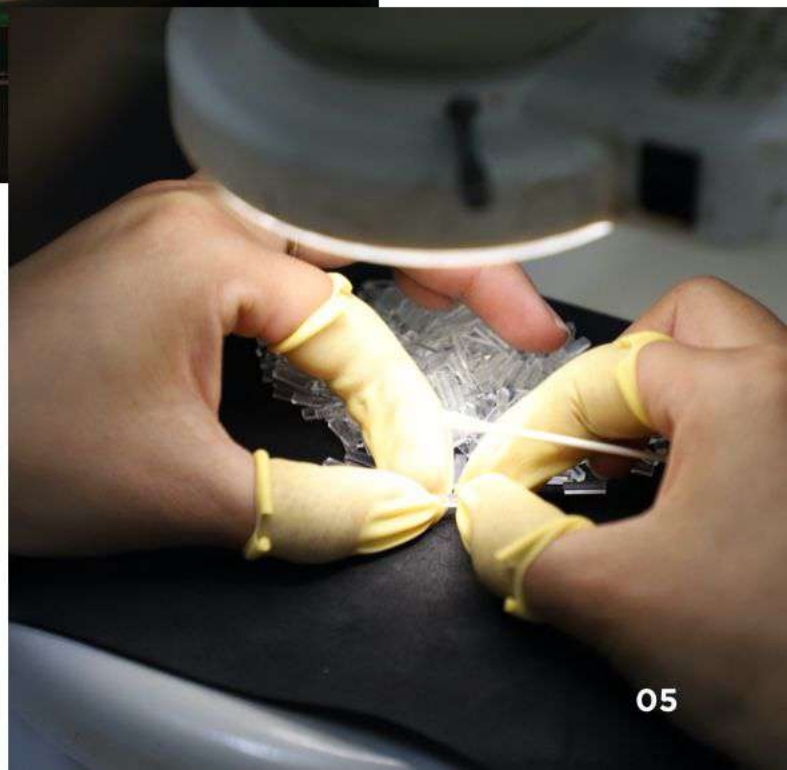
As one of the key components of Ensure's PLC splitters, our chips have been renowned in the marketplace for superior optical performance, stability, and reliability for many years. An integral part of passive optical networks that allow multiple subscribers to receive light signals simultaneously, our PLC chips utilize lithography technology to divide optical power from one or two input ports into multiple output ports.

PLC chip is one of the key part of PON networks to cover many subscribers for receiving light signals at the same time with his efficiency.



Main features:

- Low PDL & IL
- Uniform chemical characteristics
- Wide range of operating wavelength
- RoHS compliance



Product information:

Parameter	Level	Unit	1x2	1x4	1x8	1x16	1x32	1x64
Operating Wavelength		nm	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650
Band spacing -> Pitch		nm	250	250	127	127	127	127
Insertion loss (max)	P	dB	3.5	6.7	9.8	13.0	16.2	19.6
	S	dB	3.7	7.0	10.2	13.5	16.5	19.8
PDL (max)	P	dB	0.15	0.15	0.2	0.2	0.2	0.2
	S	dB	0.2	0.2	0.2	0.25	0.25	0.3
Uniformity (max)	P	dB	0.5	0.5	0.6	0.7	1.0	1.5
	S	dB	0.5	0.6	0.5	1.0	1.2	1.5
Return loss (min)		dB	55	55	55	55	55	55
Directivity (min)		dB	55	55	55	55	55	55
Working temperature		°C	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85
Storage temperature		°C	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85	-40 - +85
Chip size		mm	9.5	9.5	9.9	13.4	17.8	23.4
		mm	2.5	2.5	2.5	2.65	4.69	8.75
		mm	2	2	2	2	2	2



PLC Splitters

Main features:

- Smart design offering low IL and PDL
- Superior reliability
- Wide operating wavelength
- Wide operating temperature

Main applications:

- FTTH
- LAN/WLAN system
- PON
- CATV system
- Other fiber systems



PLC splitter types

- Cassete
- Tray
- Modular
- Bare-fiber
- Mini
- Rack-mounted

1xN PLC Splitter

Item	1x2	1x4	1x8	1x16	1x32	1x64	1x128
Fiber type	G657A/G652D						
Working wavelength (nm)	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650
Insertion loss (dB)	≤4.0	≤7.1	≤10.2	≤13.5	≤16.8	≤20.1	≤23.4
Uniformity (dB)	≤0.8	≤0.8	≤0.8	≤1.0	≤1.5	≤2.0	≤2.5
WDL (dB)	≤0.8	≤0.8	≤0.8	≤1.0	≤1.0	≤1.0	≤1.2
PDL	≤0.2	≤0.2	≤0.3	≤0.3	≤0.3	≤0.4	≤0.4
Return loss (output)	≥55	≥55	≥55	≥55	≥55	≥55	≥55
Directivity (dB)	≥55	≥55	≥55	≥55	≥55	≥55	≥55

NOTE: Insertion loss is depicted as non-connectorized

2xN PLC Splitter

Item	2x2	2x4	2x8	2x16	2x32	2x64	2x128
Fiber type	G657A/G652D						
Working wavelength (nm)	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650	1260 - 1650
Insertion loss (dB)	≤4.1	≤7.4	≤10.5	≤13.5	≤17.1	≤20.4	≤23.8
Uniformity (dB)	≤0.8	≤1.0	≤1.0	≤1.5	≤2.0	≤2.5	≤2.5
WDL (dB)	≤0.8	≤0.8	≤0.8	≤1.0	≤1.0	≤1.0	≤1.2
PDL	≤0.2	≤0.2	≤0.3	≤0.3	≤0.3	≤0.4	≤0.4
Return loss (output)	≥55	≥55	≥55	≥55	≥55	≥55	≥55
Directivity (dB)	≥55	≥55	≥55	≥55	≥55	≥55	≥55

NOTE: Insertion loss is depicted as non-connectorized

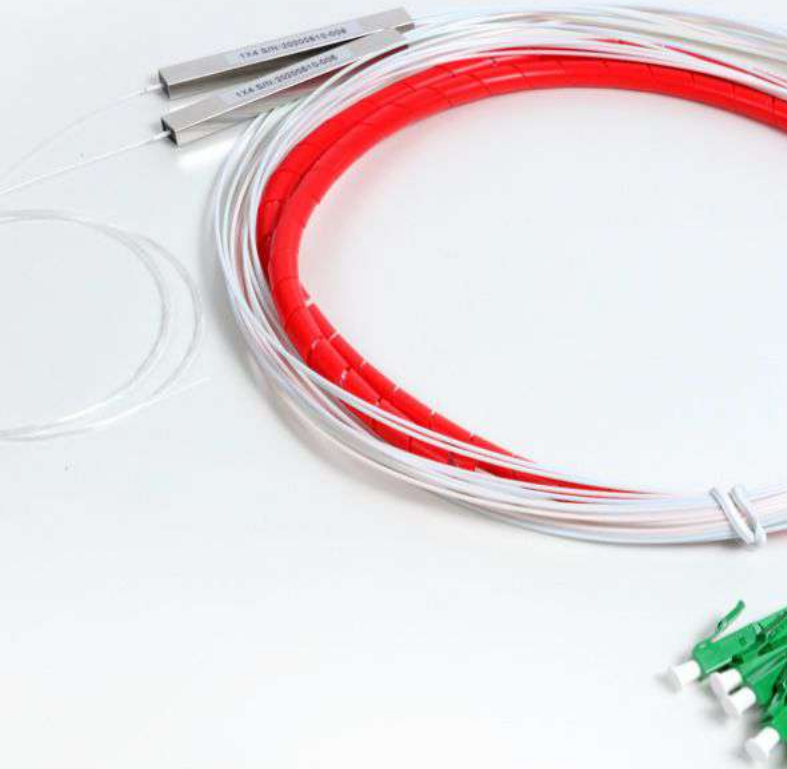
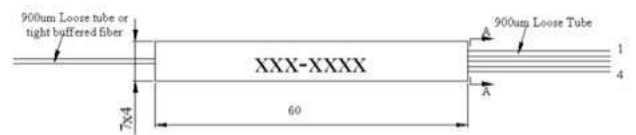
Technical and mechanical parameters

	Bare fiber type	Differential type	Module type	Module type	Insert	Frame type	Tray type
Wire ø	0.25	0.9	2.0	3.0	0.9	/	/
1x2	40x4x4	55x7x4	100x80x10	100x80x10	130x100x25	483x44.5x260	340x220x23.5
1x4	40x4x4	55x7x4	100x80x10	100x80x10	130x100x25	483x44.5x260	340x220x23.5
1x8	40x4x4	55x7x4	100x80x10	100x80x10	130x100x25	483x44.5x260	340x220x23.5
1x16	50x4x4	60x12x4	120x80x18	120x80x18	130x100x50	483x44.5x260	340x220x23.5
1x32	50x4x4	80x20x6	120x80x18	140x115x18	130x100x102	483x44.5x260	340x220x47
1x64	60x12x4	100x40x6	140x115x18	140x115x18	130x100x206	483x44.5x260	340x220x47
2x2	40x4x4	60x7x4	100x80x10	90x20x10	/	483x44.5x260	340x220x23.5
2x4	50x4x4	60x7x4	100x80x10	100x80x10	/	483x44.5x260	340x220x23.5
2x8	50x4x4	60x7x4	100x80x10	100x80x10	/	483x44.5x260	340x220x23.5
2x16	70x7x4	70x12x4	120x80x18	120x80x18	130x100x50	483x44.5x260	340x220x23.5
2x32	70x7x4	90x20x6	120x80x18	140x115x18	130x100x102	483x44.5x260	340x220x47
2x64	60x12x4	/	140x115x18	140x115x18	130x100x206	483x44.5x260	340x220x47

Mini PLC

Main features:

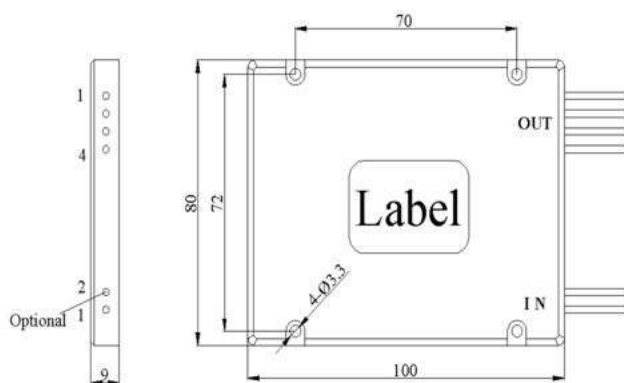
- Smart and compact design
- Low IL and PDL
- Superior reliability
- Wide operating wavelength range
- Wide operating temperature range



ABS Cassette

Main features:

- Smart and compact design
- Low IL and PDL
- Superior reliability
- Wide operating wavelength range
- Wide operating temperature range



Additional information

Environmental specifications

Parameters	Specifications
Operating temperature	-40°C ~ 85°C
Storage temperature	-40°C ~ 85°C
Operating humidity	5% ~ 85% RH

Reliability specifications

Our PLC splitter technologies are Telcordia GR-1209 and GR-1221 qualified.

Packaging

We test every splitter we make with the strictest quality control prior to shipping, according to your specifications. We offer various packaging options and can custom-design your packaging including your logo, tailored to your needs.



Advanced PLC manufacturer

At Ensure, we love what we do and the industry in which we work. Alongside our parent company, HH Group plus our corporate telecom siblings, we've helped customers meet the future head-on since 2001. With a massive commitment to R&D, we manufacture the highest-quality optical network components in our own facilities plus provide premium connectivity solutions that consistently exceed customer expectations.

We're well-known in the marketplace for best-in-class design and manufacture of PLC splitters. We control the entire production chain in our own facilities from beginning to end, starting with first-stage essential components all the way through to full turnkey OEM solutions for clients who desire ready-to-ship products in custom-designed, branded packaging.

Here's how we do it:

1 Communications start here

We invest substantial capital in specialized equipment to manufacture PLC wafers, chips, FA arrays and ceramic ferrules. We take great pride in the quality and precision of our components.

2 All steps under control

Our team oversees every step of the way in our high-capacity production facilities, with manufacturing procedures adjusted to the exact specifications of our clients.

3 Quality and finish assured

We base our processes on the strictest international quality standards, ensuring premium quality in every PLC splitter that rolls off the line.

Client testimonial

“Vodafone’s quality assurance system guarantees strict adherence to internal quality standards as well as compliance with international standards and guidelines. Ensure’s ongoing evaluation of splitter performance and manufacturing contribute significantly to our achievement of the highest quality levels. Vodafone Portugal has been using Ensure optical splitters since 2015 without a single problem, giving us the confidence we need.”



Mr. Álvaro Oliveira

Fixed Access Network Manager
Vodafone Portugal

Movistar’s official supplier

After a rigorous quality control assessment, Ensure has become an official supplier of premium connectivity components to Spanish multinational telecommunications company Telefónica and its subsidiary mobile and broadband services provider, Movistar. One of the world’s largest telecommunications and network enterprises, Telefónica entrusts Ensure to help Movistar achieve the highest level of quality for its customers while complying with strict internal and international standards.



Reference number:

3AP633001

movistar

Samples
Proveedor: 3030040 TELNET-RI
Lote: 3818
Cantidad ESTANJOAR: 1

DIVISOR 1X64
PEDIDO
Samples
Cantidad PRESENTE: 1

Refer: Fecha Exped: 01/27
Bultos: 1
Peso Aproximado: 0.17



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