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FIST-SASA2
Ordering guide
PM Ludwig Vleugels

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11-2004

Ordering Guide of the
Splitter Array Sub-Assembly (FIST-SASA2)

This document provides assistance with the selection of SASA2s for use in FIST applications.
Note that the term "splitter" is used throughout this document, frequently referred to as
"coupler" in the world of fiber optics.
It includes the following sections:

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1 Product description

The FIST splitter array sub-assemblies are **assemblies** of trays which store and protect optical splitters whereby incoming and outgoing fibers are stored per single circuit on separate organizer trays ready for splicing into the network.

The FIST-SASA2 **passive optical devices** are factory mounted in a closed housing which is labeled to indicate the factory measured insertion loss per port.

The devices are delivered mounted on a **hinging plate** together with the organizer trays that store their incoming and outgoing fiber tails.

Hinging allows access to each circuit without disturbing any other circuits.

An extra length of 1500 mm of fiber is stored in each incoming and outgoing splice tray allowing at least 10 re-splices to the network fiber.

The fiber routing from a passive optical device (splitter/coupler cassette) to the fiber storage trays is managed by an **inter-routing plate** which is situated beneath the hinging plate.

The assemblies have a base plate that can be clipped onto the UMS (Universal Mounting System) profiles which is built into the various FIST network products, e.g. splicing shelves (FIST-GSS2), patching shelves (GMS2), closures (FIST-GCO2, FIST-GCOG2) and boxes (FIST-GB2).

Provision for fiber, device and cable element identification is integrated in the design either by labeling or by using colored fibers.

The splitter components are based on FBT (fused biconic tapered) technology for low split ratio's. For higher split ratio's, planar waveguide technology is used. These components are standard placed in the TOAST protective sealing to ensure a correct operation in outside plant conditions.
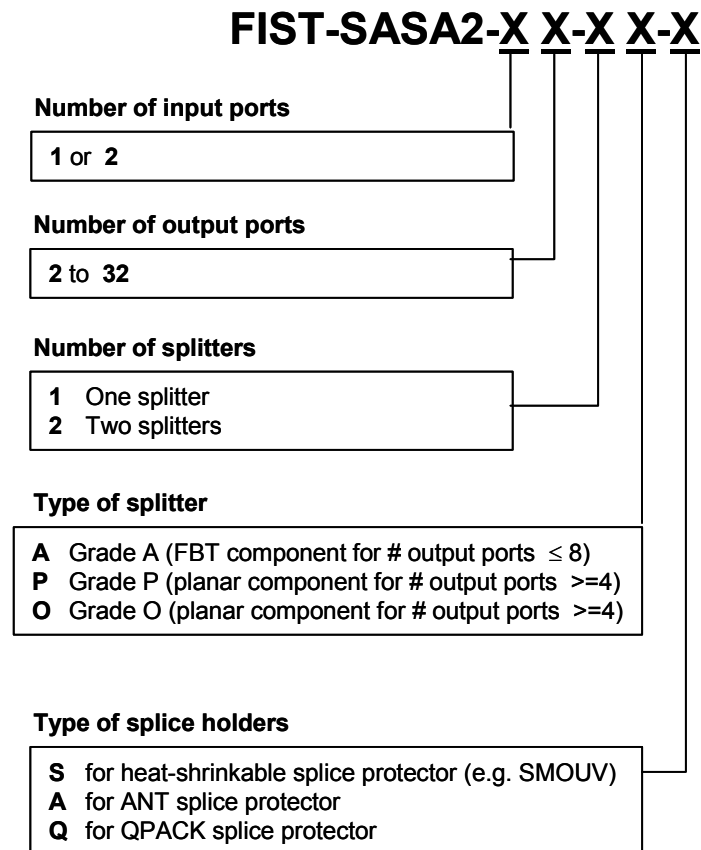

Single Circuit Tray

Splitter/Coupler Cassette

FIST-SASA2 Assembly

2 Ordering information

2.1 FIST-SASA2 modules with symmetrical splitters

FIST-SASA2-X X-X X-X

Number of input ports

1 or 2

Number of output ports

2 to 32

Number of splitters

1   One splitter
2   Two splitters

Type of splitter

A   Grade A (FBT component for # output ports ≤ 8)
P   Grade P (planar component for # output ports >=4)
O   Grade O (planar component for # output ports >=4)

Type of splice holders

S   for heat-shrinkable splice protector (e.g. SMOUV)
A   for ANT splice protector
Q   for QPACK splice protector

Notes
  1. See section 3 for more information on FIST-SASA2 selection for individual applications and for more detailed product info.
  2. Not all product options are listed in this document. Contact your local sales engineer for applications that are not described.

Kit content
  3. 1 splitter array sub-assembly
  4. 1 tray lid
  5. installation instructions

2.2 FIST-SASA2 modules with asymmetrical splitters

Specific product names will be assigned on an item by item basis for asymmetrical splitters.
Consult your local sales engineer for these applications.

The optical performance of the asymmetrical 1:2 splitters are listed in RUD5257.
Concatenations of these asymmetrical and symmetrical splitters are possible.

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3 Product guide

3.1 FIST-SASA2 module selection

This section gives a step-by-step guide to the configuration of a FIST-SASA2 splitter unit using the nomenclature described in section 2.
Following this sequence will help to ensure that all options are properly identified and selected.
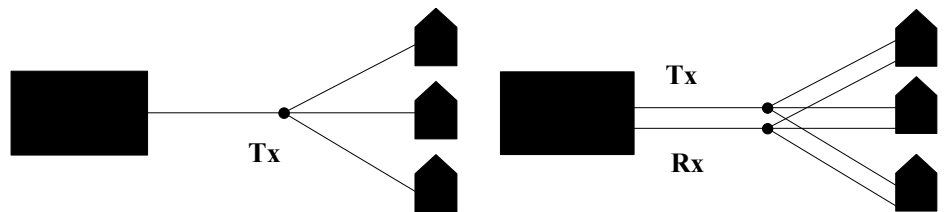
3.1.1 Definition of the port configuration

From the network design and lay-out, define the splitter configuration of the input and output ports and the number of splitters in the array.
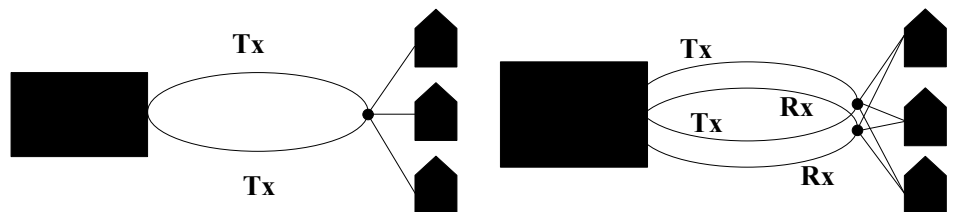For example:

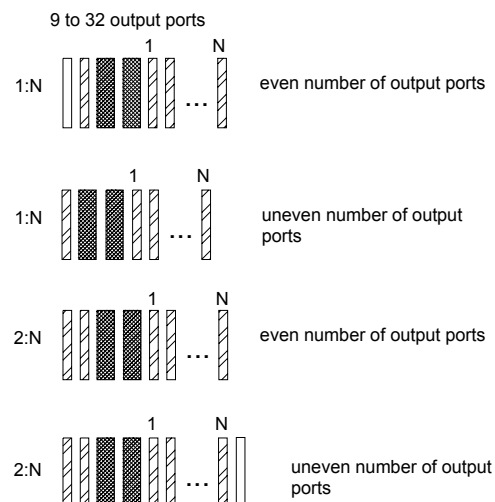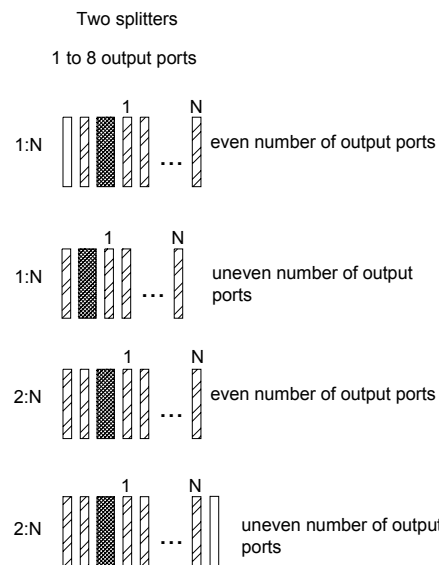| Point to multipoint transmit, no standby: One splitter - 1:N	Point to multipoint transmit-receive, no standby: Two splitters, each 1:N

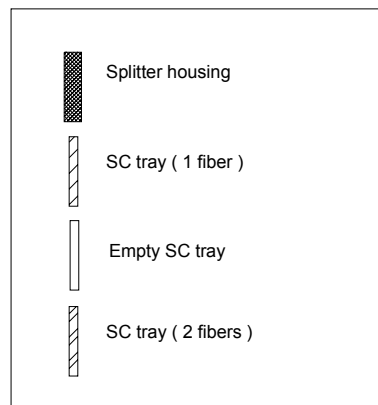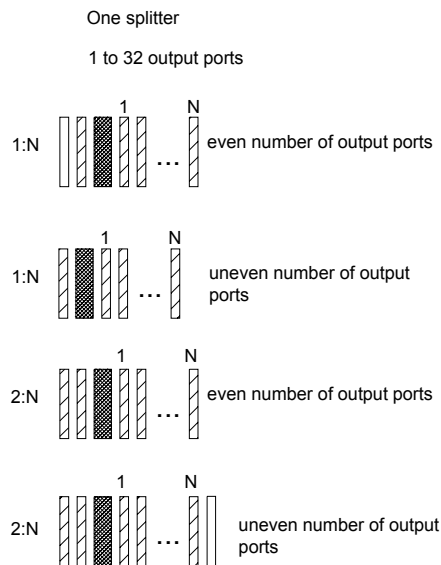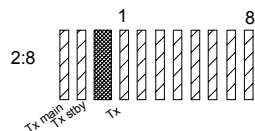| Point to multipoint transmit with standby: One splitter - 2:N	Point to multipoint transmit-receive with standby: Two splitters - each 2:N

The number of splitters and the type will define the number of device housings and trays:
When two splitters are in one array, one of the splitters will be coloured in blue to identify the fibers in the splicing trays.

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3.1.2 FIST-SASA2 sub-assembly - built-up

One splitter

1 to 32 output ports

1:N   even number of output ports

1:N   uneven number of output ports

2:N   even number of output ports

2:N   uneven number of output ports

Two splitters

1 to 8 output ports

1:N   even number of output ports

1:N   uneven number of output ports

2:N   even number of output ports

2:N   uneven number of output ports

9 to 32 output ports

1:N   even number of output ports

1:N   uneven number of output ports

2:N   even number of output ports

2:N   uneven number of output ports

Splitter housing

SC tray (1 fiber)

Empty SC tray

SC tray (2 fibers)

Example : FIST-SASA2-28-1X-X
Transmit only - 2 to 8 splitter - point to multipoint with standby

2:8   Tx main   Tx stby   Tx

Example : FIST-SASA2-28-2X-X
Transmit and receive - 2 to 8 splitter - point to multipoint with standby

2:8   Tx - Rx main   Tx - Rx stby   Tx - Rx
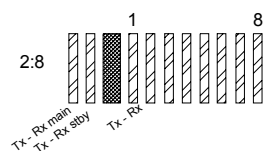
3.1.3 Selection of the splitter

Selection of symmetrical splitters

All splitters have been specified for use in O, S, C and L-band.
Select the type of splitter (grade A, P or O) based on the insertion loss and uniformity data in RUD 5257 and in RUD 5330.

Selection of asymmetrical splitters

Specific product names will be assigned on an item by item basis for asymmetrical splitters.
Consult your local sales engineer for these applications.
The optical performance of the asymmetrical 1:2 splitters are listed in RUD 5257.
Combinations of these asymmetrical and symmetrical splitters are possible (but on special request).
Note: Asymmetrical 1:Ns with N>2 will be addressed as customer specific devices and are not part of this document.

When the outputs of a splitter are asymmetric, the following identification scheme is used:

Power Output %	Location
Highest	The tray closest to the device housing
Second (if applicable)	Next from the device housing
Third (if applicable)	Next from the device housing
Lowest	The last output tray

Notes:
6. The system does not differentiate between output ports with the same power output percentage.
7. Other identifications are possible on request

3.2 FIST-SASA2 capacity, dimensions

3.2.1 Capacity

Because of the intrinsic design flexibility and the modularity of the FIST-SASA2 system, there are a large range of possible splitter variations.
The following table gives an overview of the relevant parameters:

Parameter	Minimum	Maximum
Number of incoming fibers per device	1	2
Number of outgoing fibers per device	1	32
Number of splitters per device housing (a)	1	2 (b)
Number of passive device housings per SASA2	1	2

Notes:
(a) Higher quantities can be mounted per device housing, however fibers cannot be organized on a single circuit basis if more than 2 devices are mounted in a housing.
(b) Only one splitter per housing is possible for an N>8 splitter.

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3.2.2 Dimensions

The length of the FIST-SASA2 is measured in UMS profile units according to the following table.

The total length is the sum of the length of the incoming tray(s), the length of the passive device housings and the length of the outgoing trays, rounded up to an even number of UMS units.

Description	Number of UMS units
Single circuit tray	1
Passive optical device housing	2
One UMS profile unit is equal to 6 mm.	

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