Optical Coupler

XT Optical Coupler

XT optical coupler is mainly used in the SM optic transmission line which is a passive optic component dividing one optic power to several powers per user requiring optical divide ratio.

Product brief introduction

- Low excess loss, good environment performance
- Many configurations provided
- Wide wavelength range, good directivity
- Low PDL
- Cable OD.：φ0.25, φ0.9, φ3
- According standard：YD/T1117, IEC869-1

Applications

- Optical fiber communication networks
- Test equipment, EDFA
- Optical CATV, FTTH
- Fiber gyroscopes, Source distribution
- Optical LAN

Performances

Item	Single windows Broadband coupler	Dual windows Broadband coupler	Standard Coupler
Operating wavelength (nm)	1310 or 1550	1310 and 1550	1310 or 1550
Operating bandwidth (nm)	±40	±40	±20
Coupling ratios (%)	1：99～50：50	1：99～50：50	1：99～50：50
Unit excess loss (dB)	≤0.2		
Directivity (dB)	≥55		
Operating Temp. (℃)	－40 ~ ＋85		
Max. optical power (mW)	300		

Optical TT Coupler Series

TT optical coupler is mainly used in the SM optic transmission line which is a passive optic component dividing one optic power to several powers per user requiring optical divide ratio.

Product brief introduction

- Specify coupling ratio, low excess loss
- Many configurations provided
- Wide wavelength range，good directivity
- Low PDL
- Cable OD.：φ0.25, φ0.9, φ3

Applications

- Optical fiber communication networks
- Optical fiber military communication networks
- Optical LAN
- Passive optical network

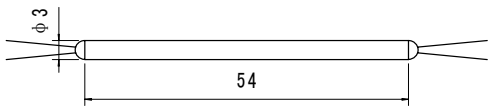
Performances

Item	Parameter
Unit excess loss (dB)	0.7(@850nm)
Operating bandwidth (nm)	800～1600
Coupling ratios (%)	1：99~50：50
Optical fiber type	50/125, 62.5/125 or required by user
Directivity（dB）	≥45
Operating Temp. (℃)	-40~＋85
Max. optical power (mW)	300

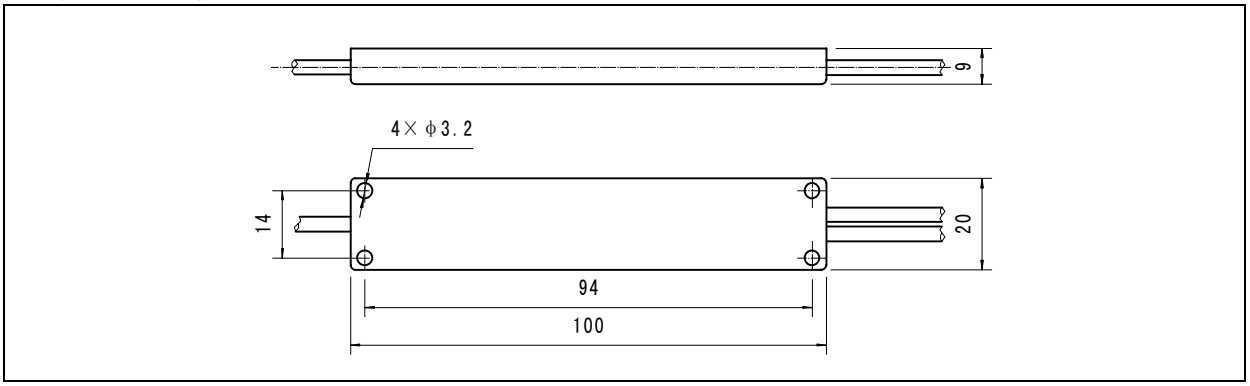
Outline dimensions

Couplers are divided into 3 types: standard XT coupler, broad band XT coupler and TT coupler. Packing types: D1 type (tube type packing), A type (1×2 branch box type packing. A means using ABS plastic; A1 means using Aluminum alloy), B type (1×3～8 branch box type packing, B means using ABS plastic, B1 means using Aluminum alloy), C type (1×10~20 branch box type packing, C means using ABS plastic, C1 means using Aluminum alloy), F type adapter box type packing, F type means using ABS plastic, F1 means using Aluminum alloy）.

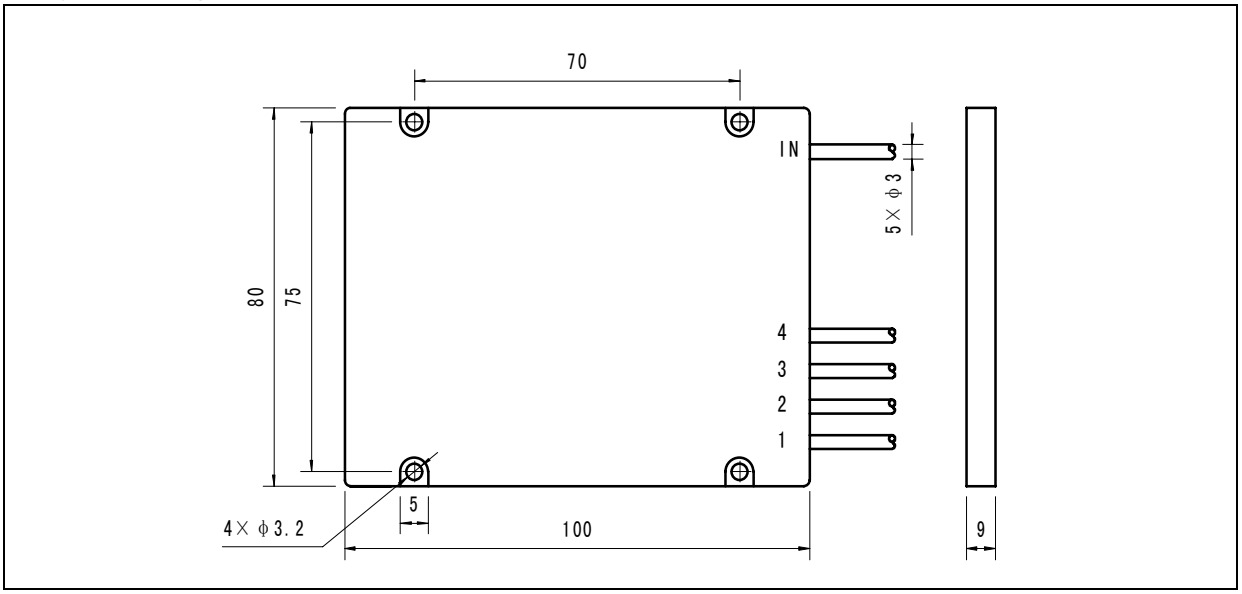
[D1 type packing（1×2 branch or 2×2 branch ）]



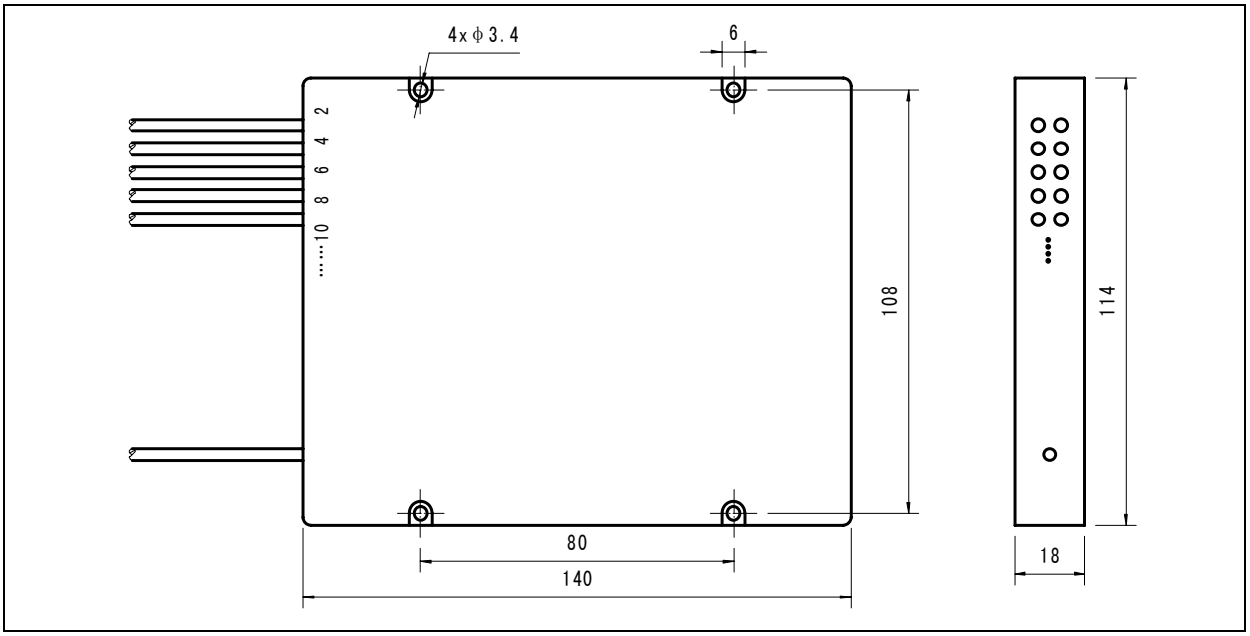
[A type packing（1×2 branch ）]



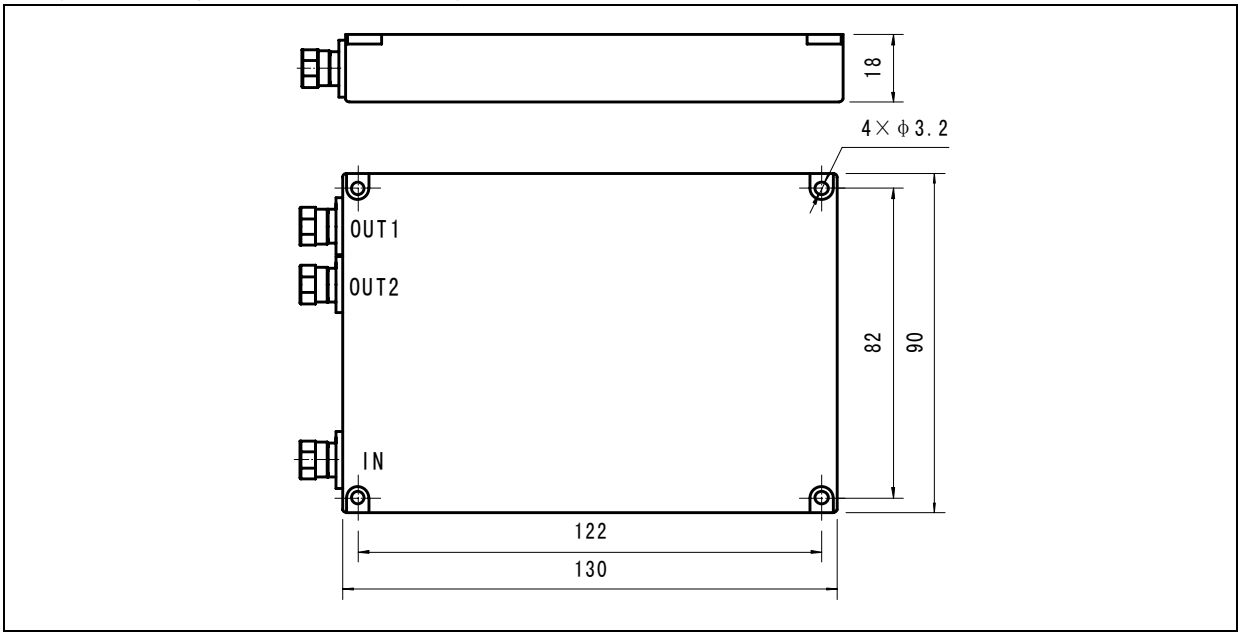
[B type packing（1×3~8 branch ）]



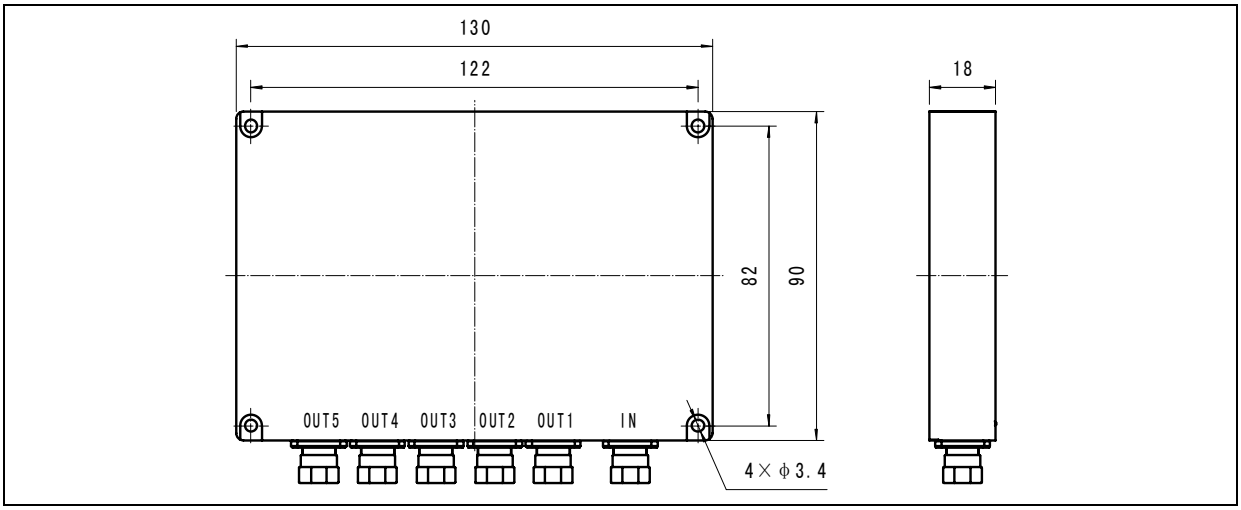
[C type packing（1×10~20 branch ）]



[F type packing（1×2 adapter box type branch）]



F type packing（1×5 adapter box type branch ）



Coupler selection guideline

Basic series	SSC	13	Y	3	-Φ0.9	*L1	/L2	-FC	*3FC	-2	B1	(20: 80)
	SSC：standard XT splitter WBC：broad band XT splitter MC：TT splitter											
Operation wavelength	See Table 2											
Splitter type	X：star type Y：tree type											
number of branches	Splitter branch numbers											
Pigtail diameter	Φ0.9—Φ0.9mm Φ2—Φ2mm Φ3—Φ3mm											
Optic fiber length mark at output port	L1（Unit：m）											
Optic fiber length mark at input port	L2（Unit：m）											
Optic plug at input port	Amount (omitted for 1) and type of optic plugs in input port											
Optic plug at output port	Amount (omitted for 1) and type of optic plugs in output port											
Coupler No.	This cannot be omitted when there are more than 2 couplers in the packing box.											
Packing type	Packing types and dimensions see Table 3											
Optical divide ratio	Optical divide ratio. Omitted when evenly divided.											

Table 1 Coupler type

Type	Name	Type	Name
SSC	Standard XT splitter	MC	TT splitter
WBC	Broad band XT splitter		

Table 2 Operation wavelength （nm）

splitter	13=1310 15=1550 85=850 1315=1310 and 1550

Table 3 Packing types and dimensions

Packing type	Part number	Packing dimensions
Tube type packing	SSC, WBC, MC	D1=d*l =Φ3*54（pigtail is Φ0.25or Φ0.9）
Box type packing	SSC, WBC, MC（number of branches: 2）	A=100*20*9（ABS）
		A1=100*20*9（Aluminum alloy）
	SSC, WBC, MC（number of branches：3~8）	B=100*80*9（ABS）
		B1=100*80*9（Aluminum alloy）
	SSC, WBC, MC（number of branches：10~20）	C=140*114*18（ABS）
		C1=140*114*18（Aluminum alloy）
Adapter box type packing	SSC, WBC, MC	F=130*90*18（ABS）
		F1=130*90*18（Aluminum alloy）

[Part number example]

Example 1：SSC13Y3－Φ3*1/2－FC*3FC－B1

Explanation：XT 1*3 evenly divided splitter's operation wavelength is 1310nm and pigtail TZ is 3mm. Pigtail length at input port is 1m and at output port is 2m. Plugs at input and output ports are all FC/PC. Packing type is B1 box type packing and optic power is evenly divided.

Example 2：SSC13Y2－Φ0.9*0.3/0.3－FC*2FC－F(80/20)

Explanation：packing type is F type box packing. Operation wavelength of XT 1X2 splitter is 1310nm. Optical divide ratio is 80：20. Pigtail OD is Φ0.9. Pigtail length at input port is 0.3m and at output port is 0.3m. Plugs at input and output ports are all FC adapters.

HNS02 Optical Coupler Series（Adapter box type packing 1×2 coupler）

HNS02 series couplers integrate two 1×2 couplers into one big packing body to form a integrated optical coupler with 2 independent light channels.

Product brief introduction

- Low excess loss，good environment performance
- Wide wavelength range，good directivity
- Low PDL
- According standard：YD/T1117, IEC869-1

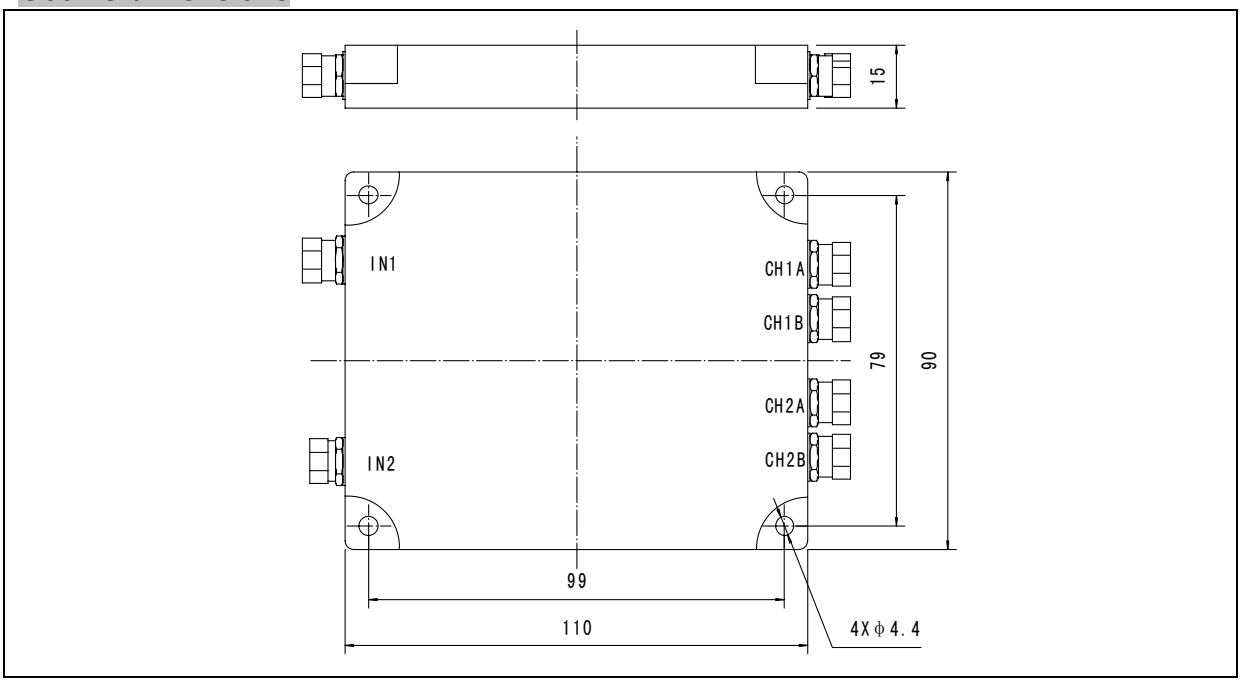
Applications

- Optical fiber communication networks
- Test equipment, EDFA
- Optical CATV, FTTH
- Fiber gyroscopes, Source distribution
- Optical LAN

Performances

See XT optic coupler and TT optic coupler performances

Outline dimensions



HNS02 series selection guideline

Bas	HNS02	-S	-1310	-FC	/(20:80)

FLQ02: adapter box type packing1×2 coupler

Transmission mode	Transmission mode	Operation wavelength	Optic fiber type
	S	1310nm、1550nm、1310nm/1550nm	9/125μm
	M	850nm、1300nm	62.5/125μm
	MI	850nm、1300nm	50/125μm
Operation wavelength	See Table 1		
Adapter type	Such as FC		
Optical divide ratio	Omitted when evenly divided.		

Table 1 Operation wavelength （nm）

Splitter	13=1310 15=1550 85=850 1315=1310 and 1550

Table 2 Packing types and dimensions

Packing type	Part number	Packing dimensions
Adapter box type packing	HNS02	D= 110*90*15（adapter type is FC or ST）

[Part number example]

Example 1：HNS02－S－1310－FC

Explanation：SM 1×2evenly divided splitter’s operation wavelength is 1310nm and adapter type is FC. Packing type is adapting box type packing and optic power is evenly divided.

HNS06 Optical Coupler Series（Adapter box type packing2×2 coupler）

HNS06 series couplers integrate six 2×2 couplers into one big packing body to form a integrated optical coupler with 12 independent light channels.

Product brief introduction

- Low excess loss，good environment performance
- Wide wavelength range, good directivity
- Low PDL
- According standard: YD/T1117, IEC869-1

Applications

- Optical fiber communication networks
- Test equipment, EDFA
- Optical CATV, FTTH
- Fiber gyroscopes, Source distribution
- Optical LAN

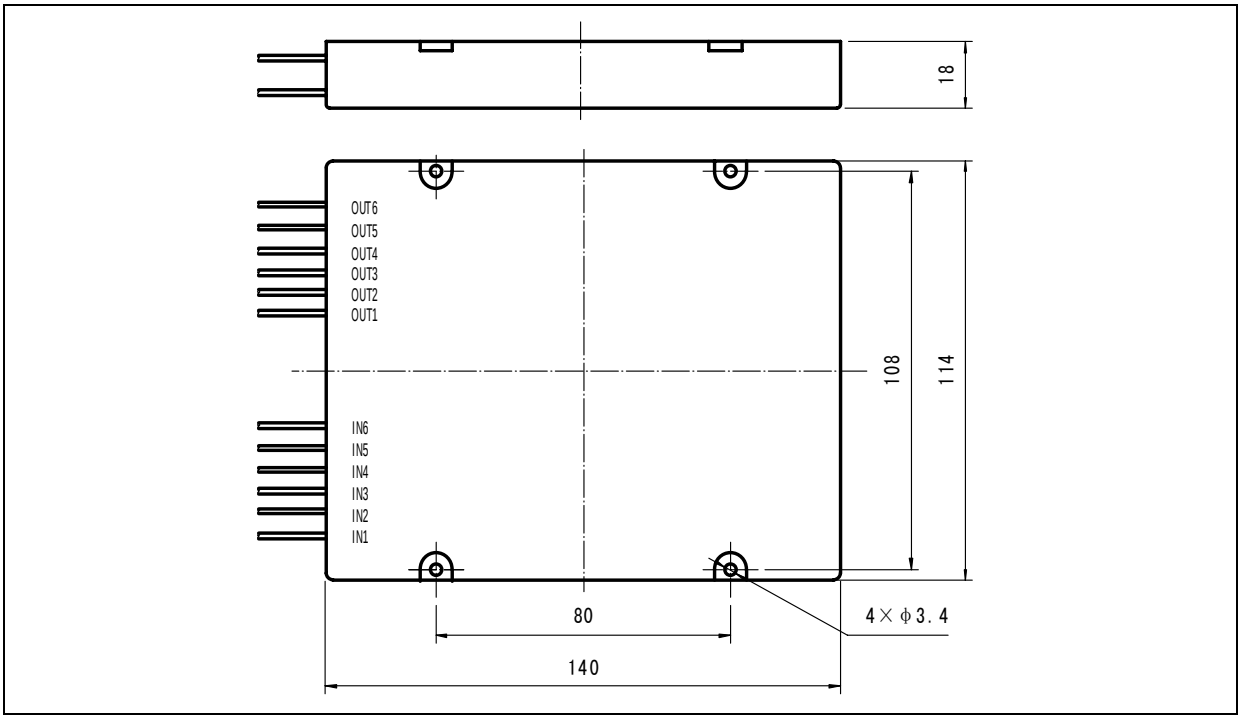
Performances

See XT optic coupler and TT optic coupler performances.

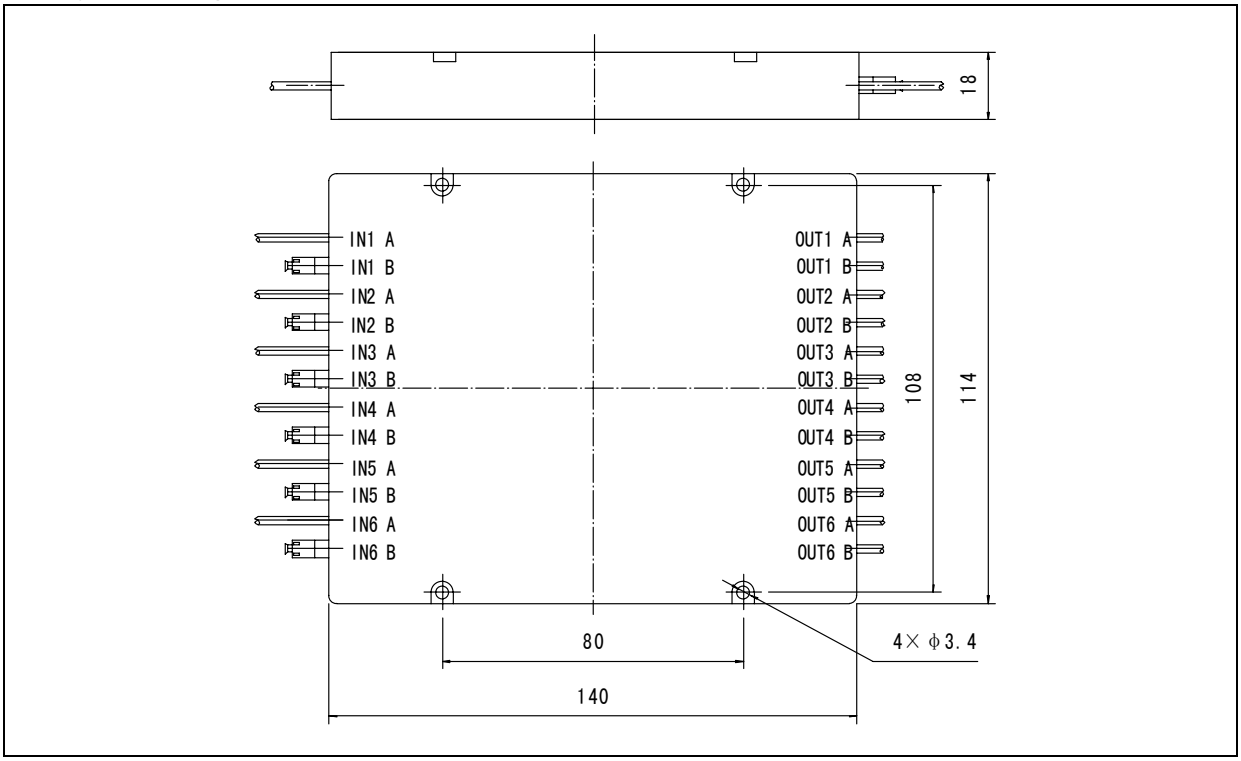
Outline dimensions

Packing types: C type（input and output are all at the same side as fiber coming out type. C means using ABS plastic; C1 means using Aluminum alloy）, C2 type（input and output are not at the same side as fiber coming out type.）, C3 type(input and output are not at the same side, input is fiber coming out type and LC adapter mixing. Output is fiber coming out type) .

[C type packing]



[C3 type packing]



HNS06 series selection

guideline Basic series HNSO6	X	85	-M	-2	*L	/L	-6FC	*12FC	-C3

	HNS06: Adapter box type packing 2×2 coupler
Splitter type	2×2 star type coupler
Operation wavelength	See Table 1
Transmission mode	Transmission mode: S; Operation wavelength: 1310nm、1550nm、1310nm/1550nm; Optic fiber type: 9/125μm Transmission mode: M; Operation wavelength: 850nm、1300nm; Optic fiber type: 62.5/125μm Transmission mode: MI; Operation wavelength: 850nm、1300nm; Optic fiber type: 50/125μm
Pigtail diameter	2－Φmm 3－Φ3mm
Pigtail length at input port	L（Unit: m）
Pigtail length at output port	L（Unit: m）
Optic plug at input port	Amount: omitted for 1 Type: FC, SC, provided per user's requirements
Optic plug at output port	Amount: omitted for 1 Type: FC, SC, provided per user's requirements
Packing type	Packing types and Outline dimensions see Table 2

Table 1 Operation wavelength （nm）

splitter	13=1310 15=1550 85=850 1315=1310 and 1550

Table 2 Packing types and dimensions

Packing type	Part number	Packing dimensions
Adapter box type packing	HNS06	C, C1, C2 or C3= 140*114*18（pigtail is Φ0.9、Φ2 and Φ3；adapter is LC）

[Part number example]

Example 1：HNS06X85－M－2*2.5/2.5－6LC*12LC－C3

Explanation： Operation wavelength of this product is 850nm. Pigtail TZ is 2mm. Pigtail length at input port is 2.5m and at output port is 2.5m. Optical connector type at input port is 6-group LC and at output port is 12-group LC. Packing type is C3 adapter box type packing. Optic power is divided evenly.