

HDS-26A series

CATV & Satellite TV

Direct Modulated Optical Transmitter

47~862MHz & 950~2600MHz

Technical specification

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1.0 PRODUCT DESCRIPTION

Huatai HDS-26A series, adopts high linearity with cooling DFB laser and direct modulated way. It can transmit 47~862MHz CATV and 950~2600MHz SAT-IF live-broadcasting TV signal at one fiber.

HDS-26A's optical operation wavelength is optional as 1310nm and 1550nm.

1550nm optical transmitter, ITU standard wavelength can be selected, suitable for DWDM, to realize network-upgrading and capability-expansion. It can work together with EDFA, YEDFA to amplify the optical power and large-area FTTH coverage. It can be compatible with any FTTx PON tech, for the Triple-play of CTAV (analogue and digital TV), Satellite TV (DVB-S) and internet.

HDS-26A adopts 1U 19" standard casing, the working parameters of the unit are controlled by micro-processor. LCD on the front panel can display the working status and failure diagnosis. Overall unit build in perfect laser APC, ATC control circuit, which ensures the laser long life time and high reliability work. Standard RS232 communication interface, SNMP support telecommunication network management and function.

The SAT-IF adopts high-linearity IF drive amplifying circuit with AGC function, TG type. also optionally, Non-IF amplifying circuit, TO type. TO type can allow high level input. CATV adopts pre-distortion compensation circuit, to improve system CSO index. It can also guarantee the transmission quality of analogue TV, Digital TV (DBS-C, DBS-T) and satellite TV over single fiber.

2.0 PRODUCT FEATURE

- High linearity, suitable for CATV & SAT-IF application
- Wide band: 47~862MHz & 950~2600MHz
- It can receive analogue CATV and SAT-IF signal over single fiberr
- 1310nm TX, output power upto 30mW
- 1550nm TX, ITU Standard wavelength tunable
- 1550nm TX can be amplified by EDFA, YEDFA to cover large-scaled FTTH, compatible with any FTTx PON technology
- Optical transmitter SAT-IF adopts high-linearity IF drive amplifying circuit with AGC function, TG type. Or optionally, Non-IF amplifying circuit, TO type. TO type can accept high level input
- Optical transmitter offers LNB +13VDC or +18VDC
- Excellent P2P ratio

3.0 MAIN APPLICATION

- CATV and satellite live telecast TV live broadcast, transmission with single fiber
- FTTC、FTTN

4.0 Related products

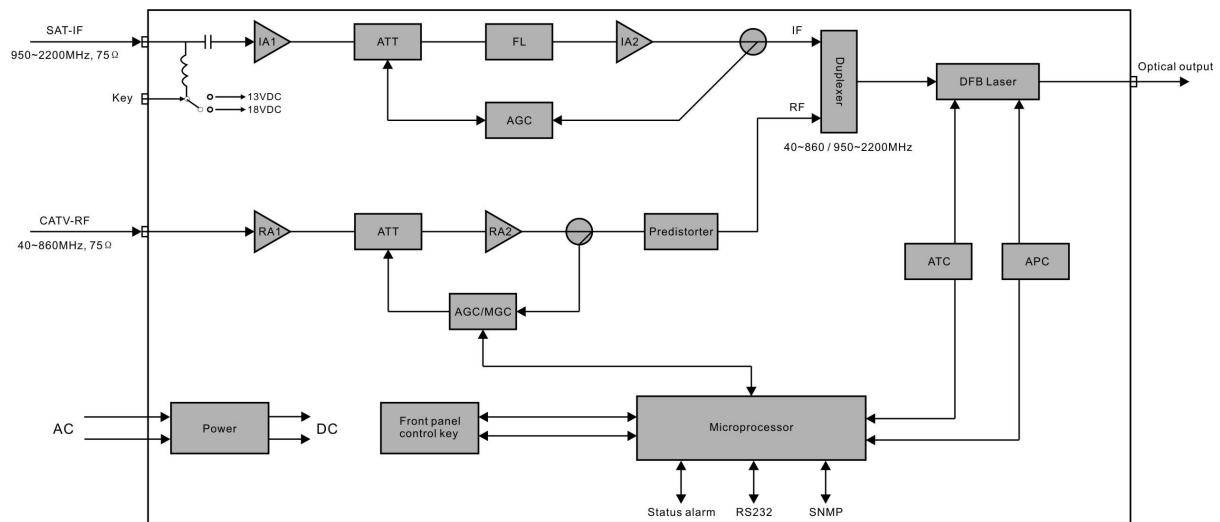
- Applicable receiver: HRS-26A

5.0 TECHNICAL INDEX

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Operating wavelength	(nm)	1300	1310	1320	13
			1540	1550	1563	CC
			1528		1543	CB
			1528		1565	XX ITU Standard wavelength tunable
	Wavelength adjustable range	(nm)	-1.6		+1.6	XX ITU Standard wavelength tunable
	Wavelength adjustable mode		In steps $\pm 0.01\text{nm}$			XX ITU Standard wavelength tunable
	Wavelength stability	(Pm/°C)	-1		0	TC=20~70°C
	Equivalent noise temperature	(dB/Hz)			-155	
	SMS	(dB)	35			
	Optical isolation	(dB)	30			
	Extinction ratio	(dB)	10			
	SBS	(dBm)	16			1310nm
			18			1550nm
	Optical output power	(mW)	8		30	1310nm
			4		10	1550nm
Return loss	(dB)	50				
Optical connector		SC/APC & LC/APC				
RF feature	Working bandwidth	(MHz)	47		862	
	Input range	(dBmV)	15		25	AGC
	Flatness	(dB)	-0.75		+0.75	47~862MHz
	Return loss	(dB)	16			
	RF port		F type			
	Input impedance	(Ω)	75			
	CNR	(dB)	51			1310 PAL-D/60CH
			50.0			1550 PAL-D/60CH
	CTB	(dB)			-65	1310
				-63	1550	
CSO	(dB)			-63	1310	

					-58	1550 ≤600MHz
					-53	1550 >600MHz
SAT-IF feature	Working bandwidth	(MHz)	950		2600	
	Input range	(dBm)	-40		-25	TG , with IF amp.
				-8		TO , without IF amp.
	Band-in flatness	(dB)		0.5		40MHz
			-2.0		+2.0	950~2600MHz
	Return loss	(dB)	10			
	Input impedance	(Ω)	75			
	RF connector		F-female			
	CNR	(dB)	28			
	CTB	(dB)			-36	
	CSO	(dB)			-36	
To LNB voltage	(V)		13/18			
To LNB max current	(mA)			300		
General feature	SNMP		RJ45			HDS-26A-1-□□
	Communication interface		RS232			HDS-26A-1-□□
	Power supply	(V)	90	220	265	
	Power consumption	(W)			30	
	Operating temp.	(°C)	0		+50	
	Storage temp.	(°C)	-40		+85	
	Relative humidity	(%)	5		95	
Size	(")	19 × 10.5 × 1.75				

6.0 HDS-26A optical transmitter electrical schematic diagram



7.0 PRODUCT SERIES

Model	Wavelength	Output power	Product feature	Connector
HDS-26A-1-10-TG/13-SA	1310nm cooling DFB	10mW	1U stendered single PS	SC/APC
HDS-26A-1-12-TG/13-SA		12 mW		SC/APC
HDS-26A-1-14-TG/13-SA		14 mW		SC/APC
HDS-26A-1-16-TG/13-SA		16 mW		SC/APC
HDS-26A-1-18-TG/13-SA		18 mW		SC/APC
HDS-26A-1-20-TG/13-SA		20 mW		SC/APC
HDS-26A-1-24-TG/13-SA		24 mW		SC/APC
HDS-26A-1-30-TG/13-SA		30 mW		SC/APC
HDS-26A-1-04-TG/□□-SA	1550nm cooling DFB	4 mW		SC/APC
HDS-26A-1-06-TG/□□-SA		6 mW		SC/APC
HDS-26A-1-08-TG/□□-SA		8 mW	SC/APC	
HDS-26A-1-10-TG/□□-SA		10 mW	SC/APC	

Remark: 1. HDS-26A-4 optional, dual power for 1U case

2. HDS-26A-6 optional, dual power for 1U case, supports hot-plug

3. 1550nm wavelength optional: CC: 1540~1563nm

CB: 528~1543nm

XX: 1528~1563nm ITU channel code, ±

1.6nm tunable

8.0 Ordering information

HDS - 26A - □ - □□ - □□ / □□ - □ / □□ - □□

Product type		Operating bandwidth		Product feature		Output power		Type	Tx wavelength & transmission distance		Optical port position		Connector		Power supply		
HDS	Satellite Direct Modulated Optical Transmitter	26A	47-862MHz & 950-2600MHz Analog TV + SAT-IF	1	19" standered Single PS	04	4mW	TG	TX, SAT-IF with AGC amplification	13	1310nm	F	Front panel	SA	SC/APC	48	-48VDC
				4	19" standered Dual PS	06	6mW			CC	1540-1563nm	B	Back panel	FA	FC/APC	22	220VAC
HES	Satellite Externally Modulated Optical Transmitter	26D	47-2600MHz Digital TV + SAT-IF	6	19" standered Dual PS, Hot plug	08	8mW	TO	TX, SAT-IF without IF amplification	CB	1528-1543nm			LA	LC/APC	11	110VAC
						10	10mW			XX	1528-1563nm ITU standard wavelength tunable						
HRS	Satellite Optical Receiver	26S	950-2600MHz SAT-IF			12	12mW										
				14	14mW												
				16	16mW												
				18	18mW												
				20	20mW												
				24	24mW												
						30	30mW										