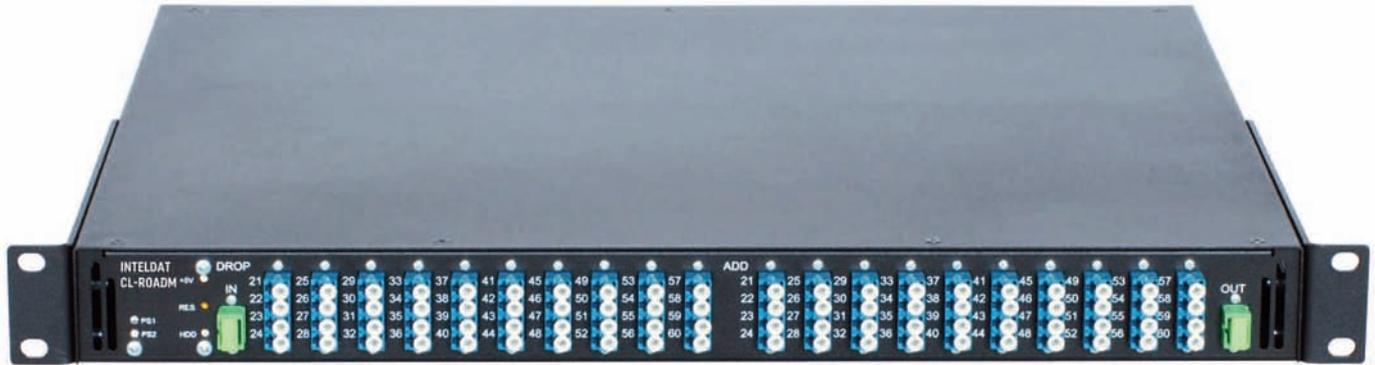# DSRO CzechLight ROADM 40-Channel Add/Drop

The DSRO is designed for multiplexing and demultiplexing optical signals in optical DWDM networks. It adds and drops wavelength channels for the DWDM multiplex without converting them to electronic signal and back, and balances channels without direct technical servicing.

The DSRO is based on WSS (Wavelength Selective Switch) module with an optical channel monitor, which is connected to a 40-channel AAWG DWDM demultiplexer (for drop) and multiplexer (for add).

INTELDAT manufactures the DSRO under license from **cesnet**

Features

- ROADM with AAWG Multi & Demultiplexer, 40 channels in C band DWDM, one fiber
- Multi-port optical channel monitor (OCM) for scanning DWDM signals
- Each wavelength can be individually attenuated in the WSS
- Low insertion loss and high isolation increases system margin
- 10/40/100/200 Gbit Capable (Modulation Format Independent)
- Redundant power supply: 230V AC and 48V DC
- Microprocessor-based control board with Linux operating system

- Remote management
  - CLI via SSH
  - SNMP package
  - E-mail critical warning messages
  - Web-based CL VMUX+OCM control and monitoring
  - Optional remote-control GSM/GPRS/UMTS/Wi-Fi
- Management and control of all important parameters
  - Setting of VOA attenuator for each channel
  - Output power in each channel
  - Temperature monitoring
  - Power supply and fan speeds monitoring
- 40 Drop and 40 Add DWDM channels, standard 21-60 by ITU-T

Specifications

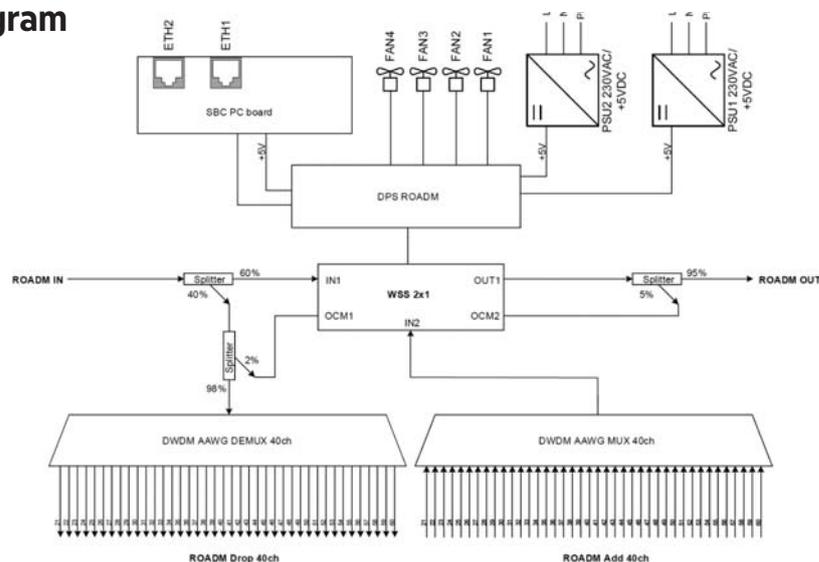| Parameters	Units	Specifications
Management interfaces		2x Ethernet 10/100 Mbit RJ45 ports
		1 x RS 232 port, 2x USB port
Power supply	W	dual PSU 100 - 230V AC and 48V DC (max 70 W)
Dimension	mm	chassis 1U 19", 435 x 415 x 44 (W x D x H)
Working Temperature	°C	+5 to +60
Optical Connectors		SC/APC for inputs/outputs, LC/UPC for Add/Drop channels

Optical Characteristic of CL ROADM - WSS

Parameters	Units	Specifications		
		Min	Type	Max
Signal Wavelength (40 channels, ch 21 - 60)		THz	192.100	196.000
Insertion Loss In-Out (VOA 0dB attenuation)	dB			12
VOA Range	dB	15		
Insertion Loss In-DROP	dB			9
Insertion Loss In-Add (VOA 0dB attenuation)	dB			12.5
Attenuation Accuracy (VOA 0 – 10 dB)	dB			0.7
Attenuation Accuracy (VOA 10 – 15 dB)	dB			1.0
Optical Power Limit (Entire Input Spectrum)	dBm			27
Optical Power Limit (1 channel)	dBm			15
Return Loss	dB	35		
Polarization Dependent Loss (PDL) (VOA 0 – 5 dB, 5 – 10 dB, 10 – 15 dB)	dB			0.7/0.9/1.4
Integrated Channel Isolation	dB	35	40	

Optical Characteristic of OCM

Parameters	Units	Specifications		
		Min	Type	Max
Channels at 50Ghz				96
Power Accuracy (-24 to -10 dBm input)	dB	±0.7	1	
Power Accuracy (-40 to -24 dBm input)	dB	±1.0	0.25	
Input Channel Power	dB	-40		-10

Functional Block Diagram

ORDERING CODES

DSRO: CzechLight ROADM 40-Channel Add/Drop

DS	RO	-	21	-	60	-	40MD	-	PS1	-	PS2	
Example												
DS	RO	-	21	-	60	-	40MD	-	PS1	-	PS2	INTELDAT CzechLight optical amplifier DWDM dual preamp+ booster (4x EDFA)