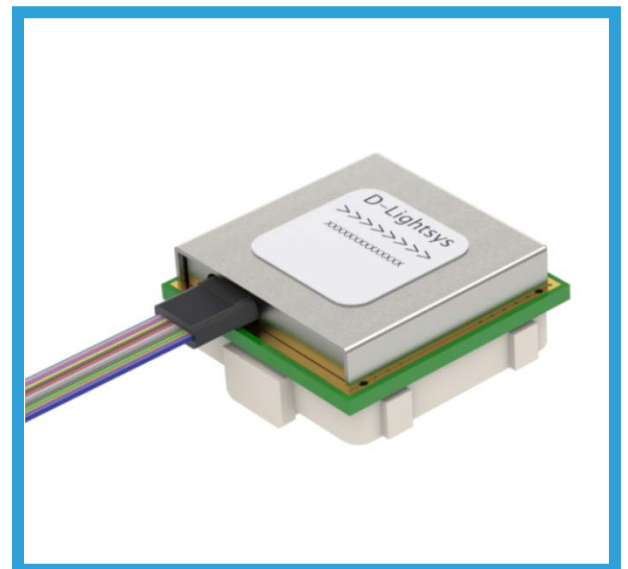


## PRODUCT BRIEF

### *D-Lightsys® 4-channel transceiver DM-4*

- 4-channel optical transceiver
- 1 to 10.31 Gbps per channel
- Protocol agnostic
- Pluggable electrical socket interface
- Pigtailed optical ribbon
- Qualified for industrial temperatures from -40 to +90 °C
- Temperature compensation for performance optimization in severe environments
- Qualified per MIL-STD-810 and MIL-STD-883



# PRODUCT BRIEF

## *D-Lightsys® 4-channel transceiver DM-4*

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### Product Description

DM-4 parallel optoelectronic modules transmit and receive high data rate signals on 4 independent channels.

- Optimized for short distance, high data rate optical communications on multimode ribbon fiber and compliant with ARINC 804 and MIL-STD standards
- Protocol independent and can be applied to 10 Gigabit Ethernet (both 1 GBE and 10 GBE), Fibre Channel, InfiniBand QDR, DDR, XAUI or any specific communication application
- Operates within the temperature range [-40 to +90 °C]
- Integrates state-of-the-art 850 nm GaAs VCSEL arrays and is optimized for low power consumption
- Available with 50/125 and 62.5/125  $\mu\text{m}$  fiber ribbon pigtail termination around the standardized MT ferrule

### Markets and Applications

D-Lightsys® DM-4 modules are embedded in many defense and aeronautic applications:

- Digital video transmissions
- Interconnect sensors
- Radar
- Data processing
- Industrial data links

### Customer Benefits

- Very compact packaging (16.4 x 16.4 x 9 mm)
- High optical budget link: > 10 dB @ 10.31 Gbps (BER <  $10^{-12}$ )
- Ribbon length and optical contact upon request
- Hot pluggable (plug and play)
- Supports non-standard protocols
- No mandatory heat sink for customer
- Programmable input equalizer and output swing/pre-emphasis functions that enable the module to handle long trace transmission
- Very low power consumption: typical 105 mW per channel

# PRODUCT BRIEF

## D-Lightsys® 4-channel transceiver DM-4

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### Key Specifications

#### General Specifications

Parameter	Symbol	Min	Typ.	Max	Unit	Notes
Supply voltage ( $V_{CC\&R}$ & $V_{CC\&R}$ )	$V_{CC\&R}$	3.0	3.3	3.6	V	
Supply current	$I_{CC}$	-	250	300	mA	
Power consumption	4Tx + 4Rx	$P_{tot}$	-	825	-	mW
	Per channel	$P_{ch}$	-	105	-	mW
Data rate per channel DM-4-255	B	1.0	-	4.25	Gbps	
Data rate per channel DM-4-1000	B	1.0	-	10.31	Gbps	Operating up to 12Gbps
Qualified temperature	$T_{op}$	-40	-	+90	°C	

#### Optical Specification

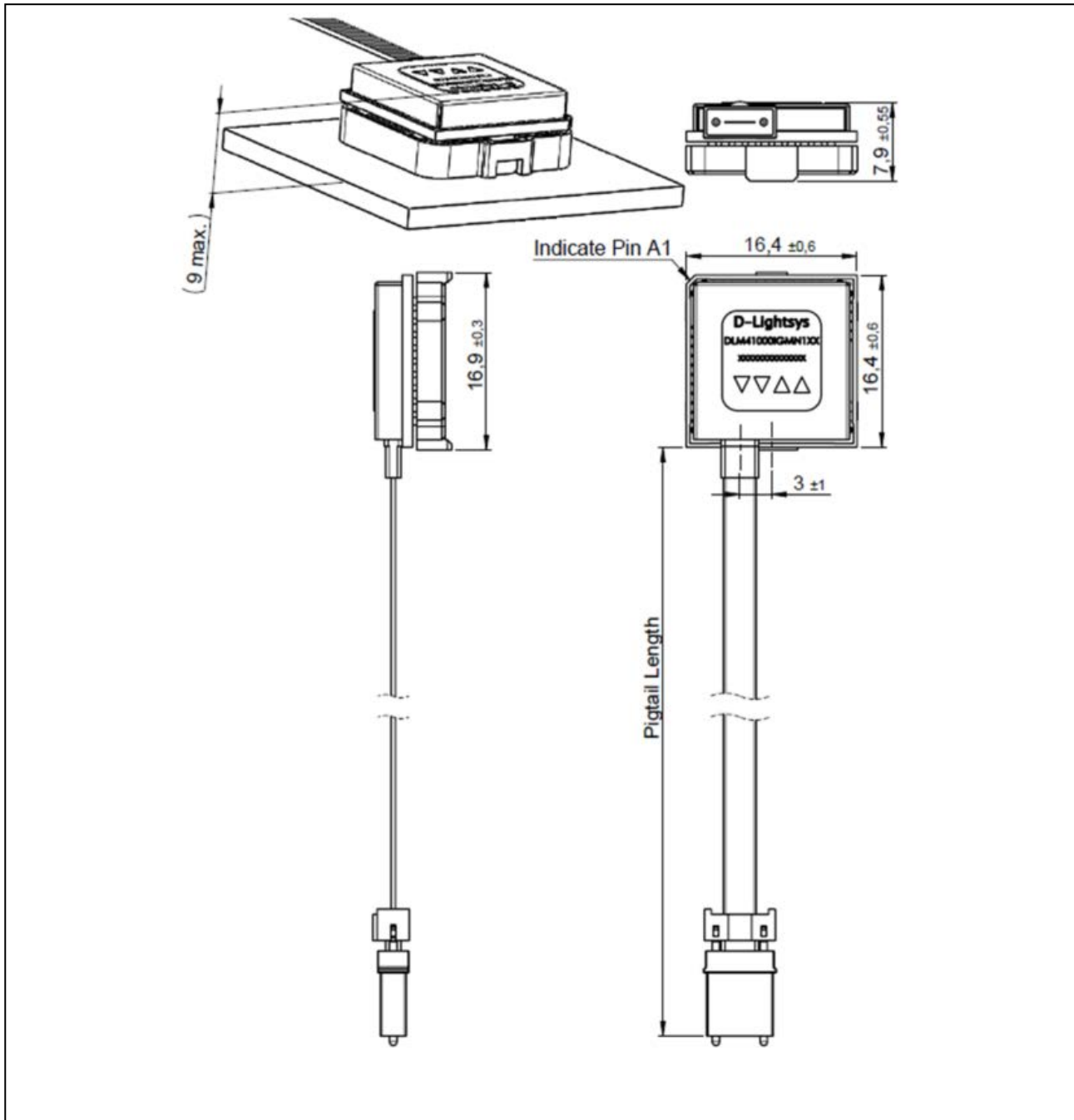
Parameter	Symbol	Min	Typ.	Max	Unit	Notes
Center wavelength	$\lambda_c$	830	850	860	nm	-
Core diameter of the optical fiber ribbon	$D_c$	50	-	62.5	$\mu\text{m}$	OM1/OM2/OM3
Tx optical output power per channel	$P_{out}$	-2	-	3	dBm	Class 1 laser products according to IEC 60825-1/2 standard
Tx optical output power variation over the specified temperature range	$\Delta P_{out}$	-	1	-	dB	-
Tx optical modulation amplitude	OMA	-	750	-	$\mu\text{W}$	-
Receiver Sensitivity	10.31Gbps	$P_{inMin}$	-14	-12	dBm	For a 10 <sup>-12</sup> BER with a PRBS 2 <sup>31</sup> -1
	4.25Gbps	$P_{inMin}$	-16	-15	dBm	

# PRODUCT BRIEF

## D-Lightsys® 4-channel transceiver DM-4

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### Package and Interfaces



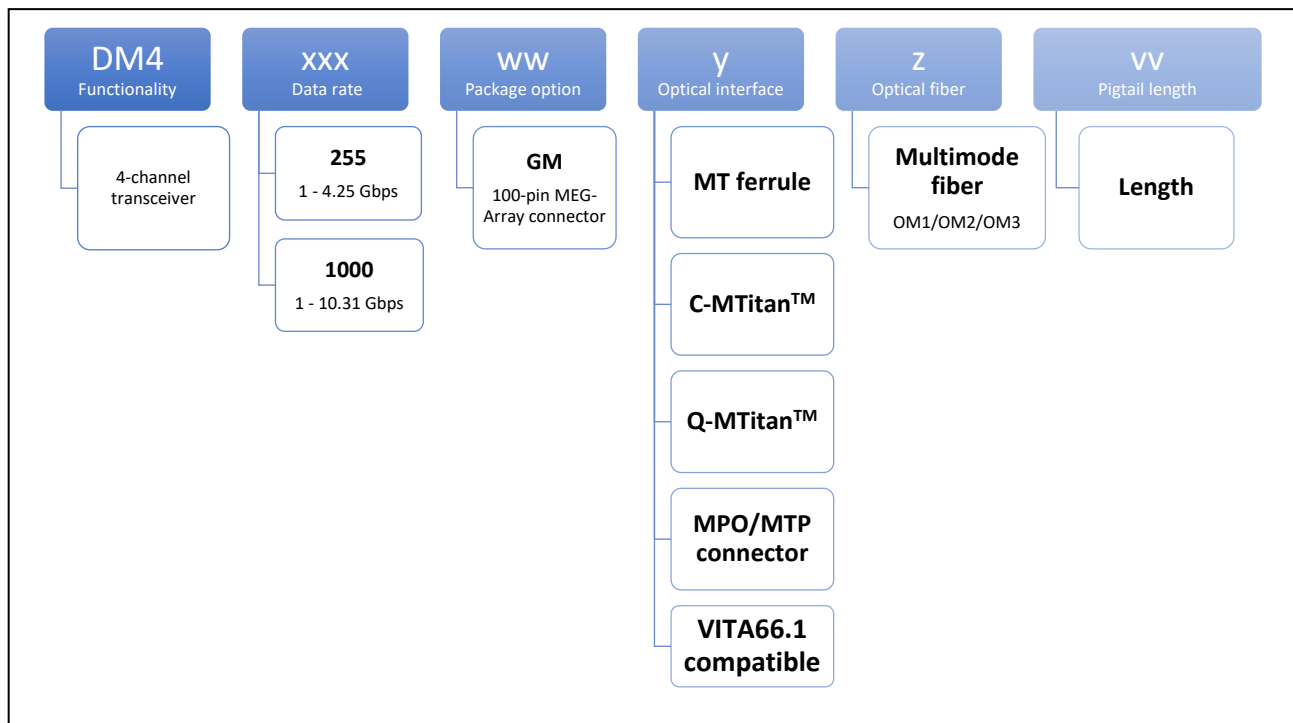


# PRODUCT BRIEF

## D-Lightsys® 4-channel transceiver DM-4

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### Ordering Information



### Contacts

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For Asia: [infohk@radiall.com](mailto:infohk@radiall.com)

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