

Dispersion Compensation Modules

DCM Series

FEATURES

- Low Insertion Loss
- Optimized for analog and digital DWDM applications from 1530 nm to 1562 nm
- Excellent wavelength stability
- Completely passive—no powering utilized
- Multiple connector options



PRODUCT OVERVIEW

The ARRIS DCM Series is a product family of dispersion compensation modules that increase the transmission distances of 1550 nm analog and digital signals. Several values of compensation are available that cover from 20 km to 100 km of SMF-28 optical fiber. The one rack-unit housing can hold two modules.

These modules compensate for chromatic dispersion in fiber that causes the light pulses to spread and generate signal impairment. In analog systems, the impairments over long fiber distances are seen as poor second-order distortions (CSO). By adding these dispersion compensation modules, the reach of broadcast and Dense Wavelength Division Multiplexing (DWDM) narrowcast systems can be significantly increased. In digital systems, the impairments of chromatic dispersion are seen as poor bit error rate. Using these dispersion compensation modules, the transmission distances in fiber can be increased significantly without regenerating the signals. In a DWDM network, significant costs can be saved by eliminating regeneration points.

SPECIFICATIONS

OPTICAL

| | |
|--------------------------------------|--------------------|
| Wavelength Range | 1530 nm to 1562 nm |
| Dispersion | See table below |
| Insertion Loss | See table below |
| Relative Dispersion Slope | 0.0015 ~ 0.0055/nm |
| Polarization Dependent Loss, Maximum | 0.1 dB |
| Return Loss, Maximum w/ connectors | 27 dB |

ENVIRONMENTAL

| | |
|-----------------------------|--------------------------------------|
| Operating Temperature Range | 0°C to +60° C (32° F to +140° F) |
| Storage Temperature Range | -40° C to +70° C (-40° F to +158° F) |

MECHANICAL, R1U-DCM-HSG

| | |
|------------|--|
| Dimensions | 19" W x 1.75" H x 10.5" D (48.3 cm x 4.5 cm x 26.7 cm) |
| Weight | 12 lbs (43 kg) |

DISPERSION COMPENSATION MODULES

| Model Name ¹ | Dispersion @ 1550nm (ps/nm) | Fiber Compensation ² | Insertion Loss, Maximum (dB) | Insertion Loss Uniformity (dB) |
|-------------------------|-----------------------------|---------------------------------|------------------------------|--------------------------------|
| DCM-20A/* | -340 ± 2% | 20 km | 2.7 | 0.4 |
| DCM-30A/* | -510 ± 2% | 30 km | 3.1 | 0.5 |
| DCM-40A/* | -680 ± 2% | 40 km | 3.6 | 0.6 |
| DCM-50A/* | -850 ± 2% | 50 km | 4.0 | 0.7 |
| DCM-60A/* | -1020 ± 2% | 60 km | 4.7 | 0.7 |
| DCM-70A/* | -1190 ± 2% | 70 km | 5.1 | 0.8 |
| DCM-80A/* | -1360 ± 2% | 80 km | 5.6 | 0.8 |
| DCM-90A/* | -1530 ± 2% | 90 km | 6.0 | 0.9 |
| DCM-100A/* | -1700 ± 2% | 100 km | 6.5 | 0.9 |

NOTES:

- For *, specify SCA for SC/APC connector, LCU for LC/UPC connector, LCA for LC/APC connector.
- Fiber distance of compensation shown for SMF-28 fiber. The compensation distance will be different for other fiber types.

ORDERING INFORMATION-HOUSING

| Model Name | Description |
|-------------|--------------------------------------|
| R1U-DCM-HSG | Housing, 1 RU, holds two DCM modules |

RELATED PRODUCTS

| | |
|-------------------|-----------------------|
| CHP Chassis | Optical Patch Cords |
| CHP Max 5000® | Optical Passives |
| Management Module | Installation Services |

Note: Specifications are subject to change without notice.

Copyright Statement: ©ARRIS Enterprises, LLC, 2018. All rights reserved. No part of this publication may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from ARRIS Enterprises, LLC ("ARRIS"). ARRIS reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of ARRIS to provide notification of such revision or change. ARRIS and the ARRIS logo are registered trademarks of ARRIS Enterprises, LLC. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks or the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

DCM_DS_24JAN18

(rev 01-2018)

Ask us about the complete Access Technologies Solutions portfolio:

Headend Optics-DCM

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656