Overview
The IFS DT/DR3000 series contact mapping transmitter and receiver provides transmission of up to eight independent contact closures over one optical fiber. Utilizing microprocessor-based logic for exceptionally robust communications channel redundancy, and a trickle-charged nickel-cadmium (NiCd) battery back-up memory within the receiver module, the DT/DR3000 series eliminates the possibility of any of the relay contacts returning to a random resting state in the event of an optical fiber breakage or loss of prime operating power at the receiver end of the link. Models within this series are available for use with multimode or single mode optical fiber. Plug-and-play design ensures ease of installation requiring no electrical or optical adjustments. Each module incorporates power and individual status indicating LED’s for monitoring confirmation of contact closure of each of the eight channels. The modules are available in either stand-alone or rack mount versions.

Application Examples
- Alarm Event Triggering
- Building Automation & Environmental Control Systems
- Lane/Gate Control
- Fire & Alarm Systems
- PIR Signal Transmission

Standard Features
- Transmits Up to Eight Contact Closures Over One Fiber
- Eight Channel Point-to-Point Transmission Architecture
- Power and Eight Individual Channel Status LED Indicators
- Eight SPST Reed Relays (with individual indicators)
- Exceeds the Environmental Requirements of NEMA TS-1/TS-2 & Caltrans Specifications (Temperature/Humidity, Shock/Vibration, and Voltage Transient Protection) for Traffic Control Equipment
- Microprocessor-based logic and battery back-up in receiver unit eliminate random contact closure status in the event of loss of optical fiber path or loss of prime operating power
- Loss of Carrier Relay for Alarm Notifications
- Relay Contact Rating: 200 VDC, 0.5 Amps, Normally Open
- No In-field Electrical or Optical Adjustments Required
- Automatic Resettable Solid-State Current Limiters
- Hot-Swappable Rack Modules
- Distances up to 25 Miles (40 km)
- Comprehensive Lifetime Warranty

Self-Healing Ring/Full Duplex Data Transceivers
Designed for implementing traffic signalization/communications data networks.
Specifications

Data
- Input/Output Channels: 8
- Contacts: 200 VDC, 0.5 amp, 12 watts, normally open
- Response Time: 25 msec maximum

Wavelength
- DT3010, DR3010: 850 nm, MM
- DT3020, DR3030: 1310 nm, MM
- DR3030: 1310 nm, MM or SM

Number Of Fibers
- 1

Connectors
- Data and Power: Terminal Block with Screw Clamps
- Optical: ST or FC (see ordering information)

Electrical & Mechanical
- Power: 12 VDC @ 150 mA
- Rack: From Rack
- Number of Rack Slots: 2
- Current Protection: Automatic Resettable Solid-State Current Limiters
- Circuit Board: Meets IPC Standard
- Size (in./cm.): LxWxH)
- Surface Mount: 7.0 x 4.9 x 2.0 in., 17.8 x 12.5 x 5.0 cm
- Rack Mount: 7.0 x 5.0 x 2.0 in., 17.8 x 12.7 x 5.0 cm
- Shipping Weight: < 2 lbs./0.9 kg

Environmental
- MTBF: > 100,000 hours
- Operating Temp: -40°C to +74°C
- Storage Temp: -40°C to +85°C
- Operating Temp: -10°C to +45°C
- Storage Temp: -20°C to +35°C
- Relative Humidity: 0% to 95% (non-condensing)

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Fibers Required</th>
<th>Opt. Pwr. Budget</th>
<th>Max. Distance*</th>
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</thead>
<tbody>
<tr>
<td>Multimode 62.5/125µm**</td>
<td>DT3010 Contact Mapping Transmitter (850 nm)</td>
<td>1</td>
<td>13 dB</td>
<td>2.5 miles (4 km)</td>
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<tr>
<td></td>
<td>DR3010 Contact Mapping Receiver (850 nm)</td>
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<td></td>
<td>DT3020 Contact Mapping Transmitter (1350 nm)</td>
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<td></td>
<td>DR3020 Contact Mapping Receiver (1350 nm)</td>
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<td>Single Mode 9/125µm</td>
<td>DT3025 Contact Mapping Transmitter (1350 nm)</td>
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<td>DR3030 Contact Mapping Receiver (1350 nm)</td>
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</table>

Accessories:
- PS-12VDC 12 Volt DC Plug-in Power Supply (Included)
- PS-12VDC-230 12 Volt DC Plug-in Power Supply, 230 VAC Input (Included if specified at time of order)
- Add ‘R3’ to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)
- Add ‘C’ for Conformally Coated Printed Circuit Boards (Extra charge, consult factory)
- Add ‘B’ for DR Battery Backup

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.
Distance can also be limited by fiber bandwidth. ** For 50/125 Fiber, subtract 4 dB from Optical Power Budget. ● All accessories are third party manufactured.

Contact Mapping Transmitter (850 nm)
Contact Mapping Receiver (850 nm)
Contact Mapping Transmitter (1350 nm)
Contact Mapping Receiver (1350 nm)

Contact Mapping Transmitter (1350 nm)
Contact Mapping Receiver (1350 nm)

8 Contacts in
8 Contacts out

DT3010
Fibers Required
2.5 miles (4 km)
8 miles (13 km)
25 miles (40 km)

PS-12VDC 12 Volt DC Plug-in Power Supply (Included)
PS-12VDC-230 12 Volt DC Plug-in Power Supply, 230 VAC Input (Included if specified at time of order)
Add ‘R3’ to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)
Add ‘C’ for Conformally Coated Printed Circuit Boards (Extra charge, consult factory)
Add ‘B’ for DR Battery Backup

* May be extended to condensation conditions by adding suffix ‘-C’ to model number for conformal coating.
+ W/O Battery  + W/ Battery

System Design

SMS-12VDC 12 Volt DC Plug-in Power Supply (Included)
SMS-12VDC-230 12 Volt DC Plug-in Power Supply, 230 VAC Input (Included if specified at time of order)
Add ‘R3’ to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately)
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