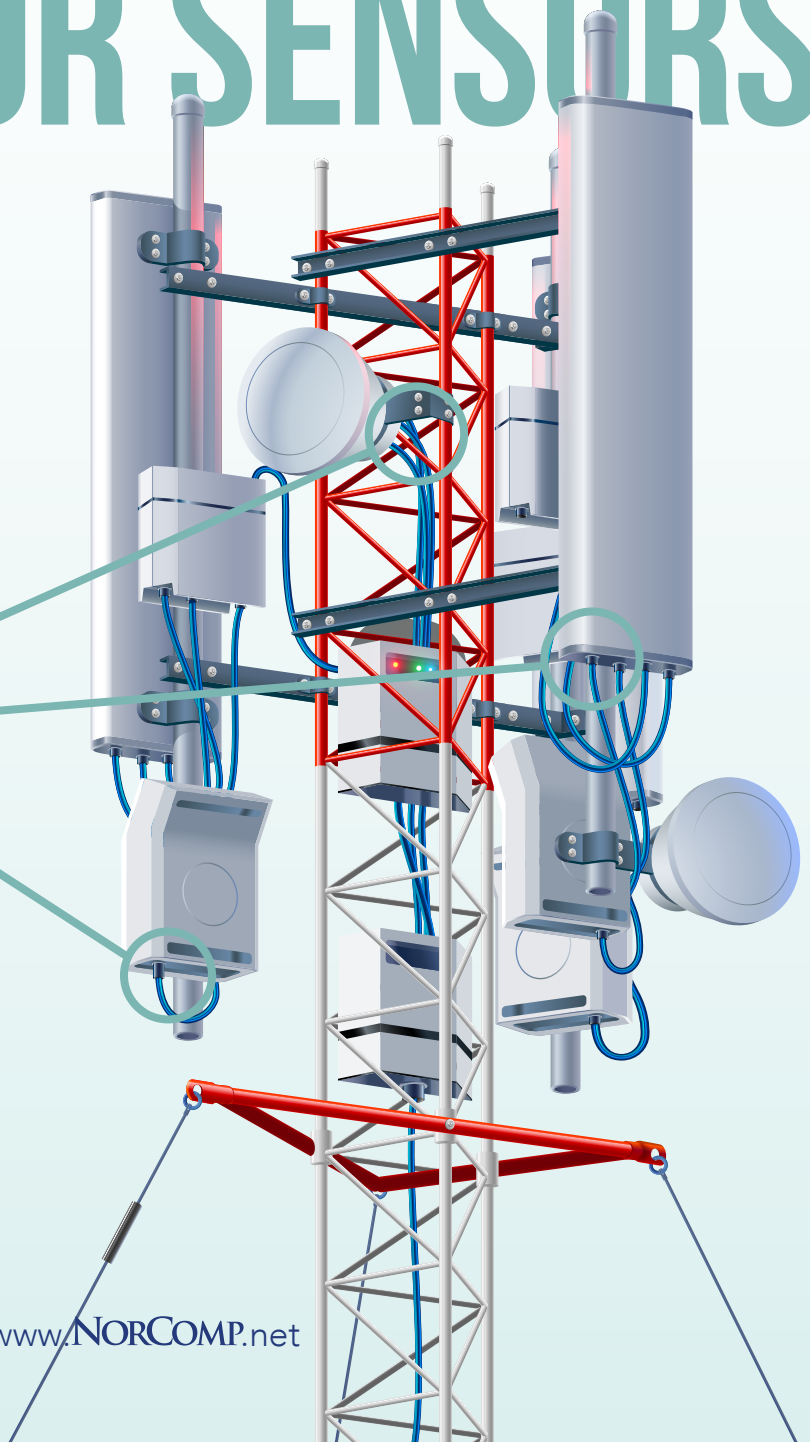


RUGGED OUTDOOR SENSORS

ARM OUTDOOR SENSORS AGAINST
THE ELEMENTS WITH NORCOMP
RUGGEDIZED CONNECTORS

CONNECTORS FOR SENSORS

SEAL-D
NANOOK
VULCON
MICRO-D



ARM OUTDOOR SENSORS AGAINST THE ELEMENTS

WITH NORCOMP RUGGEDIZED CONNECTORS

NorComp interconnects have stood sentinel for 20 years, defending outdoor sensors and gauges against extreme temperatures, rigorous vibrations, and intense ingress. From oil rigs to traffic control and last-mile delivery, **we are experts in ruggedized interconnect solutions** that are compact, lightweight, powerful, and, most of all—protected against the elements.



FOR OUTDOOR SENSORS, NORCOMP RUGGEDIZED CONNECTORS ARE TOUGH ENOUGH TO TAKE ON EXTREMES

RUGGED ENVIRONMENT CERTIFIED

Our ***Ruggedized Environment Certified (REC)*** products ensure reliable performance and readings from sensors operating in harsh, unrelenting environments. Connectors with the REC designation have been tested and verified by the end-customer's to meet their requirements. The rigorous qualification procedures verify that a connector is of the highest quality construction and that sensors can survive in even the most challenging conditions. The connector is guaranteed to never be the weakest link in your design, holding up to harsh environments for the duration of use.

IP67 // IP68 RATED



**Proprietary Sealing
Technology**



**Safeguarded Against
Powerful Jets**



**Protected For a Minimum
of 30 Minutes at 1 Meter of
Submersion**

Heavy-duty, highly demanding conditions cannot impede sensor readings—you need the protection of IP67. This critical industry rating is granted to products that are armored against dust, sand, and small particles. IP67-rated equipment is also guaranteed to endure liquid immersion of up to thirty minutes, while IP68 is designed for applications that may require immersion for greater than 30 minutes.

SEALED WITHOUT ADDING BULK

Our **SEAL-D** waterproofing technologies fit right into existing designs, occupying the same footprint as our standard connectors. This eliminates the need for you to redesign a sensor's PC board or enclosure when it comes time to upgrade to waterproof.



RUGGEDIZED CONNECTORS READY FOR HIGH-STAKES OUTDOOR APPLICATIONS

Tank farms, delivery drones, and oil wells are just a few examples of outdoor industries that arm against the elements using NorComp ruggedized connectors.

Sealed with a proprietary technology such as the **SEAL-D**, or constructed with stainless steel alloy such as our **VULCON STEEL** line, our ruggedized connectors help maintain sensing capabilities no matter what conditions are thrown their way.



EXTREMELY HARSH OUTDOOR CONDITIONS AND CLIMATES

Oil Rigs | Weather Stations | Last Mile Delivery

- Designed to MIL-Cots Specification
- Anti-Corrosion, Temperature-Resistant Materials
- Defense Against Weather and Sun Rays
- Waterproof Design
- Broad range of angles, termination styles, and pin positions

Ambient temperatures can climb to sweltering desert heat or plummet into an arctic freeze. At sea and on the roads, outdoor sensors are battered by moisture, heavy vibration, and fierce storms. Equipment running outdoors, like a last-mile delivery vehicle, **relies on dozens of sensors to avoid obstacles and navigate to the destination quickly**. Our individually tested IP67/IP68 rating and Rugged Environment Certifications ensure these kinds of devices can effectively monitor their surroundings no matter the operating conditions.

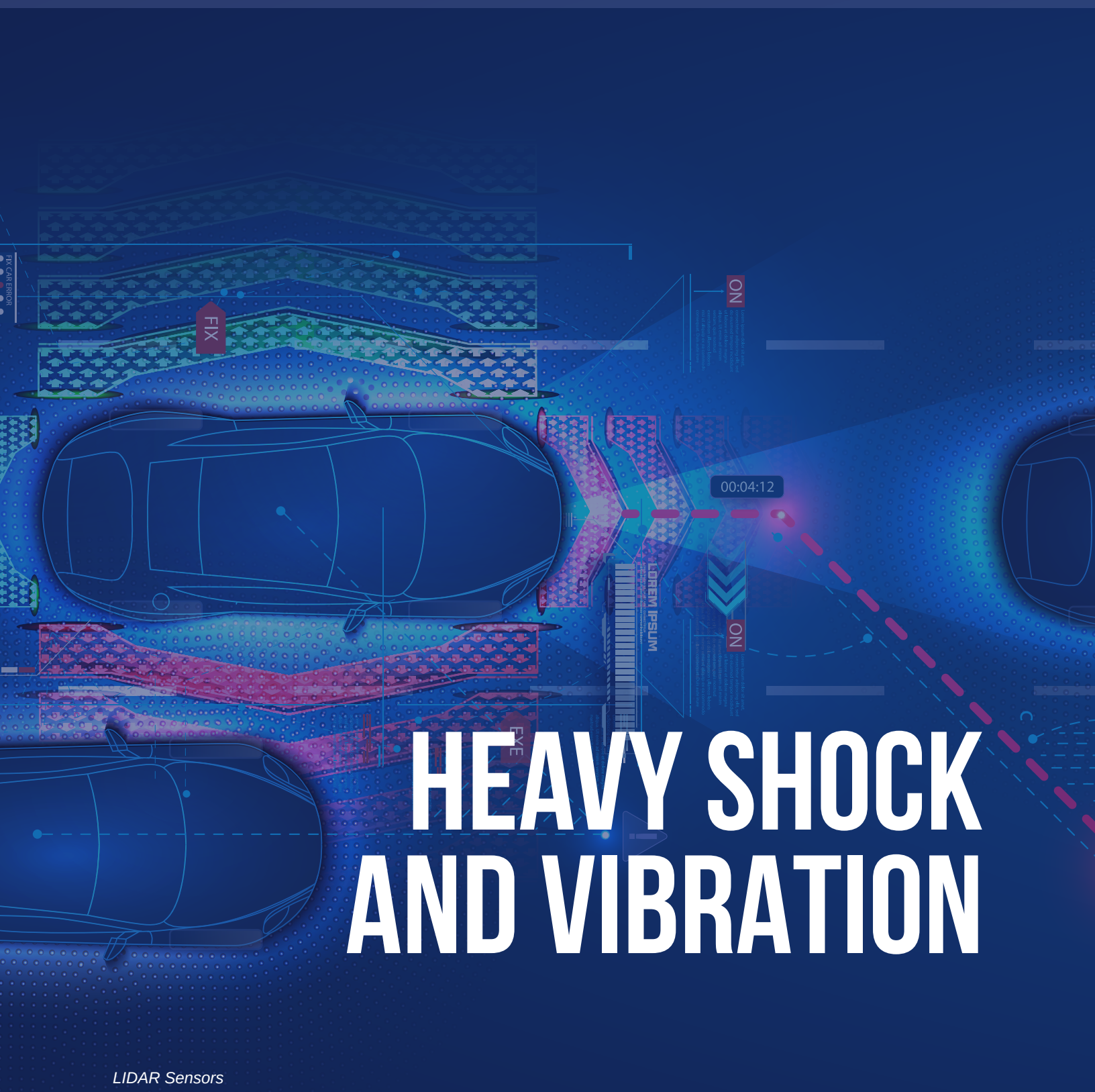
INTENSE INDOOR ENVIRONMENTS

Manufacturing | Environmental

- Compact Form Factor
- Protected Against Dust, Liquids, and Chemical Ingress
- Broad Range of Angles, Termination Styles, and Pin Positions

Scorching operating temperatures. Machinery that churns out dust, gasses, and chemicals. Even when working indoors, connectors need to defend against temperamental environmental factors.

IP67-rated connector solutions aren't just for foul weather or seaborne applications: it's a must-have for industrial, medical, and manufacturing equipment operating indoors as well.



HEAVY SHOCK AND VIBRATION

LIDAR Sensors

Whether sensors monitor machinery or are connected to constantly jostling moving parts, **our connectors are ruggedized against heavy shock and vibration.**



SUCCESS STORY

SENSORS ABOARD OIL & GAS RIGS

Calibrators and digital pressure gauges in the oil and gas industry can be exposed to heavy vibration, moisture, chemicals, and temperature extremes. A customer in this industry was experiencing **significant downtime in their RS232 communications due to ingress.**

WHY NORCOMP

Real time pressure monitoring for oil rigs and pipelines is critical. But finding more rugged connectors that were compatible with current gauges proved to be a challenge—the shape and footprint were difficult to match with.

Our team designed a proprietary re-flow sealing system that allowed standard screw machine D-Subs to be sealed to meet IP67 / IP68 standards. Through close cooperation with the customer's engineering group, we were able to propose an “**outside-the-box**” design that adapted a conformal coating process used for PC boards to our D-Sub connectors.



RAIN, SNOW AND INCLEMENT WEATHER

Sensors aboard outdoor equipment are subject to **unpredictable conditions** like rain and snow. **Our connectors help your sensors maintain performance against severe weather.**



SUCCESS STORY

SOLAR RADITION SENSORS

From the Arctic to the Sahara, a wide range of sensors are used to determine how much light we receive and, in turn, how much is reflected back into space. These sensors provide critical real-time data for many diverse industries such as farming, solar power, and climate monitoring.

Many of these sensors are small (they could fit in the palm of your hand), but they are required to operate in some of the most hostile environments known on earth. NorComp's challenge was to develop a ruggedized connector and cable system with a very small footprint, that was easily installed, and could survive in **extreme conditions**.

WHY NORCOMP

To meet the challenge, we designed a series of **IP67 rated M8 connector** assemblies with stainless steel shells and a fool-proof keying system. We paired these connectors with very flexible cable that was both UV-resistant and able to withstand the extreme temperature ranges that were required.

A background image of an industrial welding process. Bright yellow and orange sparks are flying from a welding point, illuminating the dark, metallic structures of a factory or construction site. The scene is captured in a high-contrast, slightly desaturated style with a blue tint, emphasizing the rugged and harsh environment.

**OUR RUGGEDIZED
ENVIRONMENT
CERTIFIED PRODUCTS
ENSURE RELIABLE
PERFORMANCE AND
READINGS FROM
SENSORS OPERATING IN
HARSH, UNRELENTING
ENVIRONMENTS.**

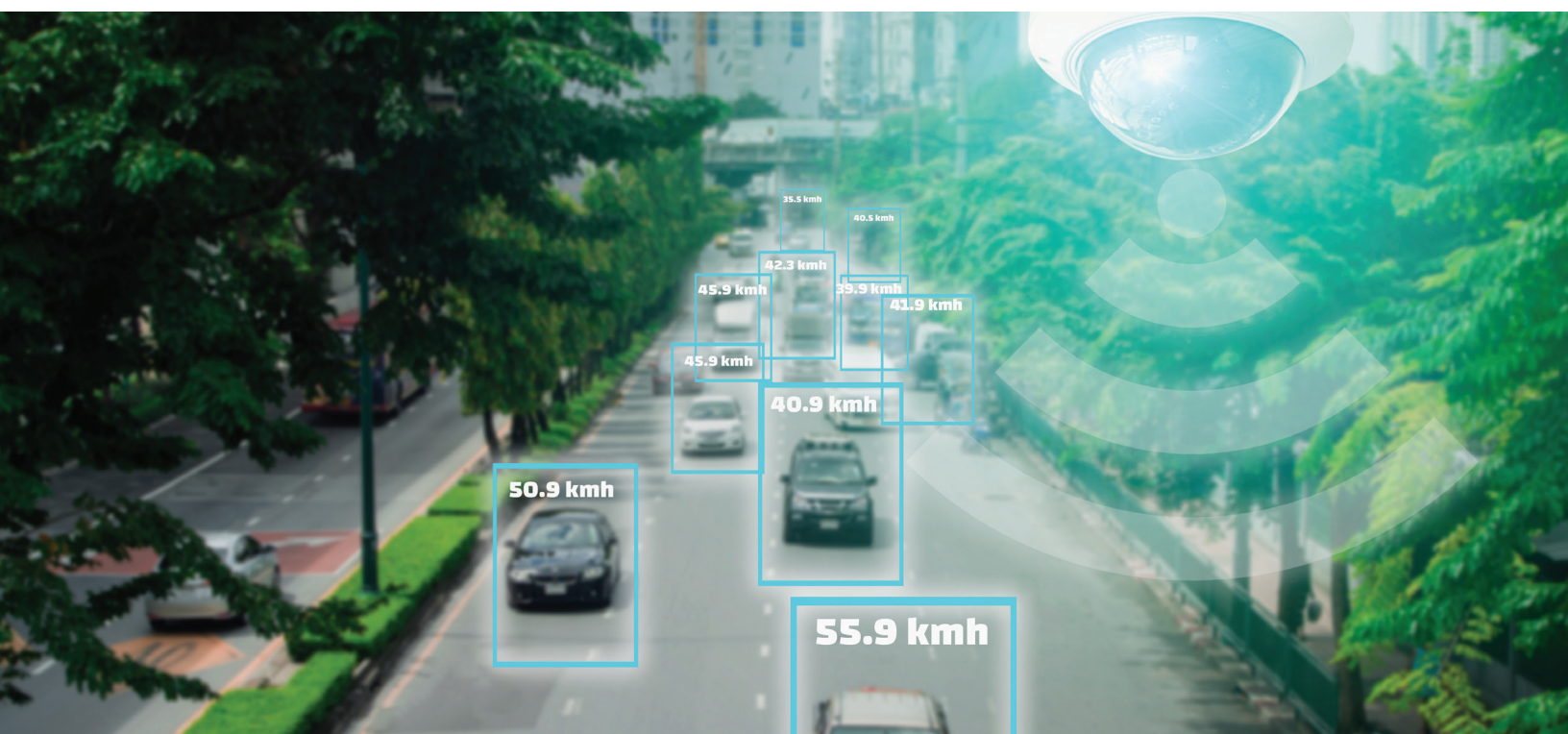
SUCCESS STORY

INTELLIGENT TRANSPORTATION SYSTEMS

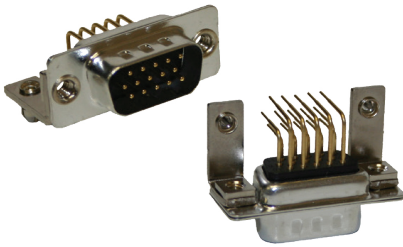
A major manufacturer of cameras that gather and interpret traffic data experienced issues with sensor reliability. Cameras affixed to traffic lights were frequently subjected to intense moisture ingress, leading to failures and corrosion.

WHY NORCOMP

Our manufacturing group was able to develop a stainless steel version of our M12 circular connector **that met the customer's precise footprint and profile specifications**. An over-molded cable assembly increased environmental protection to satisfy IP67 / IP68 standards. While most stainless steel M12 connectors are built to order, we were able to assemble a stock package that would accelerate testing and prototyping phases to improve protection against harsh environments quickly. Since this customer implemented our solution, there have been zero field failures.



FIND THE RIGHT RUGGEDIZED SOLUTION FOR YOUR APPLICATION



15 PIN HD - 781M SERIES

SEAL-D

- Signal / Low Power in 6 standard sizes:
 - Standard Density: 9, 15, 25
 - High Density: 15, 26, 44
- Combo-D / High Power in several configurations
- Solder Cup, Vertical Mount, & Right Angle Board Mount Options
- High Reliability Screw Machined Contacts
- 3 amp / 5 amp / 20 amp / 40 amp Power Options
- -55C to +105C Operating Temperature Range
- 100% IP Compliant Guaranteed | Made in U.S.A
- IP 67 Performance



CDF VERTICAL SOLDER NN-JACKSCREW

NANOOK

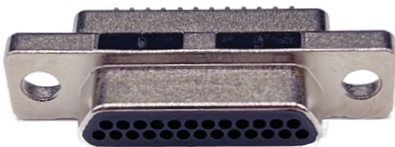
- Available in 4 Shell Sizes | (E / A / B / C)
 - Standard Density: 9, 15, 25, 37
 - High Density: 15, 26, 44, 62
 - Combo-D: 12 Variations
- Meets IP67 Performance Requirement Up to 40 AMP Power Contact Rating
- Standard Density 5A High Density 3A Combo-D 20A/40A
- Solder Cup, Vertical Solder, & Right Angle Solder Board Mount Options
- -25°C to +85°C Operating Temperature



VULCON STEEL - 4 PIN D-CODE

VULCON

- Available in 4 sizes | 16mm, 12mm, 8mm, & 5mm diameters
- Available in pin counts ranging from 2 to 17 positions
- IP67/IP68 Performance in both mated / unmated conditions
- Solder Cup, Vertical Mount, Right Angle Board Mount, & 2-piece
- M12s for automated assembly.
- Cable mount available loose piece or as pre-made cables
- Up to 5 AMP contact rating / -40°C to +85°C
- Full metal shells for EMI/RFI shielding
- A, B, D, L, S, T, & X codes available

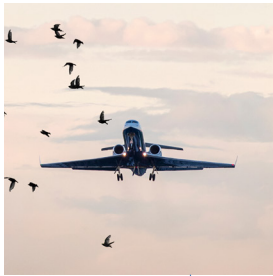


580-M SERIES SOLDER CUP

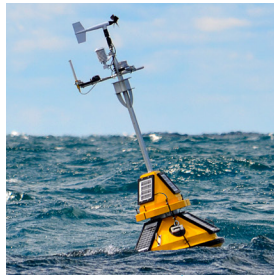
MICRO-D 580

- Machined Contacts
- Available in 3 Industry Standard Sizes: 9, 15, 25
- Cable Mount, Vertical Solder, & Right-Angle Solder
- 1/3 the Size of a Standard D-Sub
- Metal-to-metal interface for robust mechanical connections & shield effectiveness
- 2-Amp Contact Rating / 60V AC Voltage Rating / -40°C To +125°C
- **New MICRO-D Backshells Available**

RUGGEDIZED CONNECTORS FOR OUTDOOR SENSOR APPLICATIONS



FOREIGN OBJECT
DETECTIONS



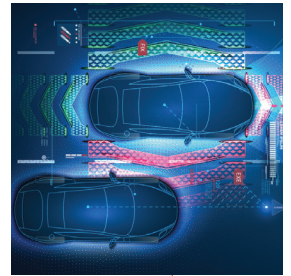
WEATHER DATA
LOGGERS



INDUSTRIAL PRESSURE
GAUGES



ALTERNATIVE ENERGY



LIDAR SENSORS



CONNECTOR FOR
INDUSTRIAL PRESSURE
GAUGES

SEAL-D
15 PIN HD - 781M SERIES



CONNECTOR FOR
LIDAR SENSORS

POWER QUIK-LOQ
821 K SERIES POWER
CONNECTOR CABLE MOUNT



CONNECTOR FOR
FOREIGN OBJECT
DETECTIONS

MICRO-D 580
580-M SERIES SOLDER CUP



CONNECTOR FOR
WEATHER DATA
LOGGERS

VULCON STEEL
VULCON STEEL - 4 PIN D-CODE



CONNECTOR FOR
ALTERNATIVE ENERGY

NANOOK
CDF VERTICAL SOLDER
NN-JACKSCREW



VULCON FIELD INSTALLABLE



858FA08-103RCS1 - M12 Field Install

- Available in pin counts of 4, 5, and 8
- Screw termination
- A code, B code, & D code
- Non-removable contacts
- High mating cycles
- Up to 4 AMP contact rating / -40C to +85C
- IP67 performance in both mated & unmated conditions

VULCON ADAPTERS



M12 X-code to RJ45

- Available in pin counts ranging from 3 to 8 positions
- M8 A & B Code options; M12 A, B & D code options
- T & Y splitter formats for easy external cable routing
- M12 panel mounts in both male & female mating options
- RJ Adapters available in both straight and right angle options
- Up to 4 AMP contact rating / -40C to +85C
- IP67 performance in both mated & unmated conditions



Customer Service & Sales: sales@norcomp.net

3810 Shutterfly Rd. Suite #200 Charlotte, N.C. 28217

800-849-4450 (Toll Free) | 704-424-5448 (Local) | 704-424-5648 (Fax)