HI-IMPACT™
Complete Communication Solution
for Harsh Environments.
From the most severe industrial to punishing commercial, HI-IMPACT™ System answers the call . . .

In today’s competitive market the ability to access “Real Time” data is critical to customer satisfaction. “Real-Time” data supports the global trend of e-commerce, quick-response and vendor-managed inventory systems. Customers and suppliers now have the ability to look at all points in the supply chain, from raw material to finished goods. This ultimately improves responsiveness and provides a competitive edge to be best in class.

The global acceptance of Ethernet protocol has pushed RJ45 connectors from the corporate office to the more demanding industrial and harsh commercial environments. This trend has created the need for a more dynamic and robust solution. In these environments the typical mated connection may corrode, wear, clog with debris, and eventually fail. High maintenance costs, downtime and critical failure are the results, where dust, moisture, temperature extremes, EMI, and vibration are commonplace.

Hubbell’s HI-IMPACT™ system is more than just a connection. It is a complete end-to-end communications solution designed to solve problems in the most severe industrial to punishing commercial environments.
... Spanning applications from A to Z.

Automated Tellers Machines
Billboards & Display
Educational
  K-12
  University
Entertainment & Hospitality
  Casinos
  Convention Center
  Entertainment
  Fast Food
  Hotels
  Resorts
  Restaurants
  Stadiums
  Theme Parks
Food
  Commercial Kitchens
  Fast Food Industry
  Food Processing
Geological Testing
Laboratories
Manufacturing
  Automation
  Automotive
  Finishing and Plating
  Foundries
  Material Handling
  Molding
  Paper Mills
  Pharmaceutical
  Process & Control
  Robotics Welding
  Stamping
  Tool & Die
  Warehouses
Marinas
Medical
  Hospitals
  Mobile Medical Units
Military
Mining Industries
Oil Industries
Retail
  Supermarkets
Transportation
  Airports
  Bus Stations
  Subways
  Train Stations
Utility Companies
  Electric Utilities
  Refinement & Waste
  Treatment facilities
Vending Machines
Wireless
Zoos
HARSH- A Comprehensive Rating System.
The **Hubbell Applications Rating System for Harsh Environments** (HARSH-e) simplifies specifying the right product by categorizing environmental conditions into three classes – severe, harsh and tough.

For each environmental condition, identify the level that best describes your application in the HARSH-e table.

The most severe environmental condition dictates the HARSH-e level for your application.

See the page for the corresponding HARSH-e level for the product set and system components.

### HARSH-e
**Hubbell Application Rating System for Harsh Environments**

<table>
<thead>
<tr>
<th>Application Severe</th>
<th>Application Harsh</th>
<th>Application Tough</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dust</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosures: <strong>NEMA 4X</strong>&lt;br&gt;Connectors: IP67 and IP66&lt;br&gt;Totally protected against dust (Dust-tight)</td>
<td>Enclosures: <strong>NEMA 4/12/13</strong>&lt;br&gt;Connectors: IP67 and IP66&lt;br&gt;Protected against dust, Objects greater than 1 mm</td>
<td>Enclosures: <strong>NEMA 3R</strong>&lt;br&gt;Connectors: IP43&lt;br&gt;Objects greater than 1 mm i.e., tools, wires, small wires</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosures: <strong>NEMA 4X</strong>&lt;br&gt;Connectors: IP67 and IP66&lt;br&gt;Immersion and strong pressure jets</td>
<td>Enclosures: <strong>NEMA 4/12/13</strong>&lt;br&gt;Connectors: IP67 and IP66&lt;br&gt;Protected against strong and low pressure jets</td>
<td>Enclosures: <strong>NEMA 3R</strong>&lt;br&gt;Connectors: IP43&lt;br&gt;Protected against sprays of water to 60° from vertical</td>
</tr>
<tr>
<td><strong>Corrosion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosures: <strong>NEMA 4X</strong>&lt;br&gt;Stainless Steel: Dust, water and corrosive liquids&lt;br&gt;Connectors: PBT&lt;br&gt;Common oils, chemicals and cleaning agents</td>
<td>Enclosures: <strong>NEMA 4/12/13</strong>&lt;br&gt;Ice, dust, water, non-corrosive liquids&lt;br&gt;Connectors: PBT&lt;br&gt;Common oils</td>
<td>Enclosures: <strong>NEMA 3R</strong>&lt;br&gt;Falling rain, sleet&lt;br&gt;Connectors: N/A</td>
</tr>
<tr>
<td><strong>Impact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosures: 14 ga., 304 SS&lt;br&gt;Connector Housing: PBT</td>
<td>Enclosures: 14 ga., steel&lt;br&gt;Connector Housing: PBT</td>
<td>Enclosures: 14 ga., steel&lt;br&gt;Connectors: Thermoplastic</td>
</tr>
<tr>
<td><strong>Tamper</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosures: Protected, secured and locked</td>
<td>Enclosures: Protected, and optional locked</td>
<td>Enclosures: Protected, but not secured</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIA/EIA-568-B.2&lt;br&gt;TIA/TR 42.9 pending</td>
<td>TIA/EIA-568-B.2</td>
<td>TIA/EIA-568-B.2</td>
</tr>
<tr>
<td><strong>Vibration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIA/TR 42.9 10-500Hz&lt;br&gt;5g Acceleration</td>
<td>TIA/TR 42.9 10-500Hz&lt;br&gt;2g Acceleration</td>
<td>TIA/TR 42.9 10-500Hz&lt;br&gt;0.7g Acceleration</td>
</tr>
<tr>
<td><strong>Ultra-Violet</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected</td>
<td>Protected</td>
<td>Not Protected</td>
</tr>
</tbody>
</table>
Connector Hardware for Harsh Environments.

- **O-Ring Seal**
  - Reliable IP67 and IP66

- **Maximum Cable Strain Relief**
  - Resists pull-out

- **Flexible Double Jacketed Patch Cable**
  - Resistant to UV, chemicals, cleaning agents and oils

- **Vibration TIA-568-B.2**
  - Transmission integrity

- **PBT Construction**
  - Resistant to temperature extremes and impact

- **Connectors**
- **Patch Cords**
- **Plates**

www.hubbell-solutions.com/HIimpact
Standard ¾” Knockout
Simplifies installation

Standard Hubbell Keystone Opening
Provides migration path

User-Friendly Quick Connect
Positive indication when fully engaged

CONNECTOR SPECIFICATIONS

Environmental
- Ingress Protection: IP67 and IP66 (dust and water)
- Corrosion: Resistant to most common chemicals, cleaning agents and oils
- UV: UV resistant (HI-IMPACT Housing)
- Temperature Range: TIA/EIA-568-B.2
  TIA/TR 42.9 (product pending)

Mechanical
- Vibration
  - Frequency Range: 10-500Hz
  - Acceleration: 5g
- Mating Cycles: 750 minimum
- UL 1863 listed

Material
- Connector Housing: PBT, UL94V-0
- Nose Contacts: Beryllium copper with a minimum of 50 micro-inch gold plating over nickel under plating
- IDC 110 Contacts: Phosphor bronze with 100 micro-inch tin lead 60/40 plating over nickel under plating

Electrical
- ANSI/TIA/EIA-568-B.2-1 (Category 6)
- ANSI/TIA/EIA-568-B.2 (Category 5e)
- Supports TIA/TR42.9 Industrial Draft
- Supports 4 times IEEE 802.3af DTE power specifications
- Exceeds IEEE 802.3ab Gigabit specifications to < 1 * 10^-13

Certifications
- UL Listed
- cUL Listed
- CSA Certified
- 3rd Party Verified Category 6 and 5e component

www.hubbell-solutions.com/Hlimpact
HARSH-e3 applications are punishing environments where extreme temperatures, EMI, vibration and exposure to corrosive materials may be present.

**Typical Severe Environment Applications**

- Food Processing
- Manufacturing
  - Automation
  - Automotive
  - Finishing and Plating
  - Foundries
  - Molding
  - Paper Mills
  - Process & Control
  - Robotics
  - Welding
  - Stamping
  - Tool & Die
- Marinas
- Pharmaceutical
- Utility
  - Electric Utilities
  - Oil & Mining
  - Refinement & Waste Treatment Facilities

**HI-IMPACT™ Product Solutions**

**Connectors**
- Cat 5e
- Cat 5e Coupler
- *F-Connector
- *Cat 6
- *M12

**Patch Cords**
- Cat 5e
- Cat 6
- Hybrid Series
- M12 to RJ45

**Enclosures**
- NEMA 4X
- REBox®
- Consolidation Point
- *Wireless

**Plates and Boxes**
- FS/FD Plates
- NEMA 4X Control Boxes
- Portable Outlet Boxes
- Weatherproof Box

**Delivery**
- Center Rack
- TrukTrak®
- LiquidTight® Systems
- Cord Connectors

* Coming soon 2004
HARSH-e2 applications are harsh environments where hardware is exposed to regular abuse.

**Typical Harsh Environment Applications**

- Automated Tellers Machines
- Billboards and Display
- Food Commercial Food Fast Food Restaurants
- Laboratories
- Manufacturing Automation Material Handling Warehouses
- Medical Mobile Med Units
- Pharmaceutical
- Retail
- Transportation
  - Airports
  - Bus Stations
  - Subways
  - Train Stations
- Zoos

**HI-IMPACT™ Product Solutions**

- **Connectors**
  - Cat 5e
  - Cat 5e Coupler
  - *F-Connector
  - *Cat 6

- **Patch Cords**
  - Cat 5e
  - Cat 6

- **Enclosures**
  - NEMA 4/12/13
  - REBox®
  - Consolidation Point
  - *Wireless

- **Plates and Boxes**
  - Plates
  - NEMA 4/12/13 Control Boxes
  - Portable Outlet Boxes
  - Die-cast Box

- **Delivery**
  - Center Rack
  - TredTrak®
  - LiquidTight® Systems

*Coming soon 2004*
HARSH-e1 applications are more demanding than typical commercial environments. Hardware is exposed to occasional rough use.

**Typical Tough Environment Applications**

- **Hospitality and Entertainment**
  - Aquariums
  - Amusement and Family Entertainment
  - Casinos
  - Convention Centers
  - Hotels
  - Resorts
  - Stadiums
  - Theme Parks
- **Educational**
  - K-12
  - University
- **Grocery/Deli**

**HI-IMPACT™ Product Solutions**

- **Connectors**
  - Cat 5e
  - Cat 6
  - Cat 5e Coupler
- **Patch Cords**
  - Cat 5e
  - Cat 6
- **Enclosures**
  - NEMA 3R
  - REBox®
  - “Wireless”
- **Plates and Boxes**
  - Communication Frames
  - Flip Covers
  - Bell® Boxes
  - Work Boxes
  - Secure-IT™ Plate
- **Delivery**
  - Center Rack
  - TredTrak®
  - LiquidTight® Systems
HARSH- e A Comprehensive Rating System.

1. TOUGH Environments
2. HARSH Environments
3. SEVERE Environments

www.hubbell-solutions.com/HI-Impact
Communication Solutions for Harsh Environments

**HI-Impact™ Connectors**
*Call for additional product information*

<table>
<thead>
<tr>
<th>Type</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat 6</td>
<td>HBLH6*</td>
</tr>
<tr>
<td>Cat 5e</td>
<td>HBLH5E</td>
</tr>
<tr>
<td>Cat 5e In-Line Coupler</td>
<td>HBLH5ECC</td>
</tr>
</tbody>
</table>

M12 MicroQuick, 4-position, Male MBMS14314

* Available Q2-2004.

**Communication Jacks**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 6</td>
<td>HBL6XX</td>
</tr>
<tr>
<td>Category 5e</td>
<td>HBL5XX</td>
</tr>
</tbody>
</table>

**Multimedia Connector**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-type</td>
<td>HBLHIF**</td>
</tr>
</tbody>
</table>

**Connector Cover**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective Cover</td>
<td>HBLHIC</td>
</tr>
</tbody>
</table>

**HI-Impact™ Plates**
*Call for additional product information*

**Stainless Steel**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Gang</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>HBLHISF11</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>HBLHISF12</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>HBLHISF22</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>HBLHISF24</td>
</tr>
</tbody>
</table>

**Thermoplastic, 4-Point FS/FD, 1-Gang**

<table>
<thead>
<tr>
<th>Ports Color</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Gray</td>
<td>HBLH14GY</td>
</tr>
<tr>
<td>2 Gray</td>
<td>HBLH24GY</td>
</tr>
<tr>
<td>1 Yellow</td>
<td>HBLH114PY</td>
</tr>
<tr>
<td>2 Yellow</td>
<td>HBLH124PY</td>
</tr>
</tbody>
</table>

**Flip-Cover, Die-Cast Aluminum, Vertical, 1-Gang**

<table>
<thead>
<tr>
<th>Type</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device</td>
<td>WP26</td>
</tr>
<tr>
<td>FS/FD</td>
<td>WPFS26</td>
</tr>
</tbody>
</table>

**Weatherproof, NEMA 3R**

<table>
<thead>
<tr>
<th>Horizontal</th>
<th>Gang</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weatherproof</td>
<td>1</td>
<td>WP826MHP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vertical</th>
<th>Gang</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weatherproof</td>
<td>1</td>
<td>WP826MP</td>
</tr>
<tr>
<td>Weatherproof</td>
<td>2</td>
<td>WP8262MP</td>
</tr>
</tbody>
</table>

**Weatherproof NEMA 4X Box**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HBLH14GY*</td>
</tr>
<tr>
<td>2</td>
<td>HBLH24GY*</td>
</tr>
<tr>
<td>4</td>
<td>HBLH44GY*</td>
</tr>
<tr>
<td>6</td>
<td>HBLH64GY*</td>
</tr>
</tbody>
</table>

**Stainless Steel**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HBLH1CBSS*</td>
</tr>
<tr>
<td>2</td>
<td>HBLH2CBSS*</td>
</tr>
</tbody>
</table>

* Available Q2-2004.

**HI-Impact™ Boxes**
*Call for additional product information*

**Fiberglass Weatherproof Device Box with Lugs**

<table>
<thead>
<tr>
<th>Knockout</th>
<th>Color</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾*</td>
<td>Gray</td>
<td>HBL60CM83</td>
</tr>
</tbody>
</table>

**Cast Aluminum Device Box with Lugs**

<table>
<thead>
<tr>
<th>Knockout</th>
<th>Color</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>½*</td>
<td>Gray</td>
<td>HBLHIFD1L*</td>
</tr>
<tr>
<td>¾*</td>
<td>Gray</td>
<td>HBLHIFD2L*</td>
</tr>
</tbody>
</table>

* Available Q2-2004.

**Cast Aluminum Weatherproof Device Box with Lugs**

<table>
<thead>
<tr>
<th>Knockout</th>
<th>Color</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>½*</td>
<td>Gray</td>
<td>HBLHIWP05GY*</td>
</tr>
<tr>
<td>¾*</td>
<td>Gray</td>
<td>HBLHIWP75GY*</td>
</tr>
</tbody>
</table>

* Available Q2-2004.

**NEMA 4/12 Box**

**Stainless Steel, Gray**

<table>
<thead>
<tr>
<th>Port</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HBLH1CBG*</td>
</tr>
<tr>
<td>2</td>
<td>HBLH2CBG*</td>
</tr>
</tbody>
</table>

* Available Q2-2004.

**Portable Outlet with Strain Relief Kit**

<table>
<thead>
<tr>
<th>Port</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HBLH1POB*</td>
</tr>
</tbody>
</table>

**Multisport** HBLH1POB*  * Available Q3-2004.

* Available Q2-2004.

**HI-Impact™ Frames**
*Call for additional product information*

**StyleLine® Frames**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>FCX244XX</td>
</tr>
<tr>
<td>3</td>
<td>FCX344XX</td>
</tr>
<tr>
<td>4</td>
<td>FCX444XX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ports</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>DJOXX</td>
</tr>
<tr>
<td>4</td>
<td>DJ106XX</td>
</tr>
</tbody>
</table>

**Duplex Frames**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>FCX244XX</td>
</tr>
<tr>
<td>3</td>
<td>FCX344XX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ports</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>DJOXX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>xx</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>Black</td>
</tr>
<tr>
<td>GY</td>
<td>Gray</td>
</tr>
<tr>
<td>OR</td>
<td>Orange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>xx</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>Black</td>
</tr>
<tr>
<td>GY</td>
<td>Gray</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>xx</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>Black</td>
</tr>
<tr>
<td>GY</td>
<td>Gray</td>
</tr>
</tbody>
</table>

**Connector Cover**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective Cover</td>
<td>HBLHIC</td>
</tr>
</tbody>
</table>

**NEMA 4/12 Box**

**Stainless Steel, Gray**

<table>
<thead>
<tr>
<th>Port (Cat. No. 1)</th>
<th>DIOXX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>xx</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>Black</td>
</tr>
</tbody>
</table>

www.hubbell-solutions.com/HI-Impact
### HI-Impact™ Cords
*Call for additional product information*

**HI-Impact to HI-Impact Connector**
- **Type**
  - Cat 6: HBLH6XXEE*
  - Cat 5e: HBLH5EXXXE
  - Cat 5e, Shielded: HBLH5ESXXEE**
  - F-type: HBLHIFXXEE*
  - M12, 4-position female: HBLHIM12XXEE**

**HI-Impact Connector to RJ-45**
- **Type**
  - Cat 6: HBLH6XXAE*
  - Cat 5e: HBLH5EXXXA
  - Cat 5e, Shielded: HBLH5ESXXAA**
- **XX = Length**
  - 03 = 3'
  - 05 = 5'
  - 10 = 10'
  - 12 = 12'
  - 15 = 15'
  - 20 = 20'
  - 25 = 25'
  - *Available Q2-2004.*
  - **Available Q3-2004.**

**HI-Impact® Plugs and Cable**
*Call for additional product information*

- **Type**
  - Cat 5e Plug: HBLH5EP
  - Cat 5e Patch Cable, 100': HBLHIPC100
  - F-type Connector: HBLHIFPP*
  - RG-59 Patch Cable, 100': HBLHIFC100**
  - **Available Q3-2004.**

### HI-Impact™ Enclosures
*Call for additional product information*

#### REBOX® NEMA 4/12/13, Gray
- **Height**
  - 24": Unloaded: HBLIR2UG
  - 36": Unloaded: HBLIR3UG
  - 48": Unloaded: HBLIR4UG
  - 36": Loaded: HBLIR3PG
  - 48": Loaded: HBLIR4PG

#### REBOX® NEMA 4X, Stainless Steel
- **Height**
  - 24": Unloaded: HBLIR2USS*
  - 36": Unloaded: HBLIR3USS*

#### REBOX® NEMA 3R, Gray
- **Height**
  - 24": Unloaded: HBLIR2U2R
  - 36": Unloaded: HBLIR2U3R

### HI-Impact™ Delivery
*Call for additional product information*

- **PolyTuff Conduit**
  - **Size**
    - ½": 100' G1050
    - ¾": 100' G1075

### HI-Impact™ Delivery
*Call for additional product information*

- **LiquidTight, Metallic Fittings**
  - **Size**
    - ½": Straight Male: H0501A
    - ¾": Straight Male: H0751A

### HI-Impact™ Delivery
*Call for additional product information*

- **LiquidTight, Non-Metallic Fittings**
  - **Size**
    - ½": Straight Male: P050NGYA
    - ¾": Straight Male: P075NGYA

#### TredTrak, 5-Channel
- **Description**
  - Track, 3' Section: HBLTRED5B
  - End Caps: HBLTRED5ECB
  - "X" Section: HBLTRED5XB
  - "Y" Section: HBLTRED5YB

### HI-Impact™ Delivery
*Call for additional product information*

- **TrukTrak, 5-Channel**
  - **Description**
    - Track, 3' Section: HBLTT5B
    - End Caps: HBLTT5ECB
    - Right Turn: HBLTT545RB
    - Left Turn: HBLTT545LB
  - **Type**
    - SS NEMA 4X: HBLHICPSS*
    - Gray NEMA 4/12: HBLHICP412G*
    - *Available Q2-2004.*