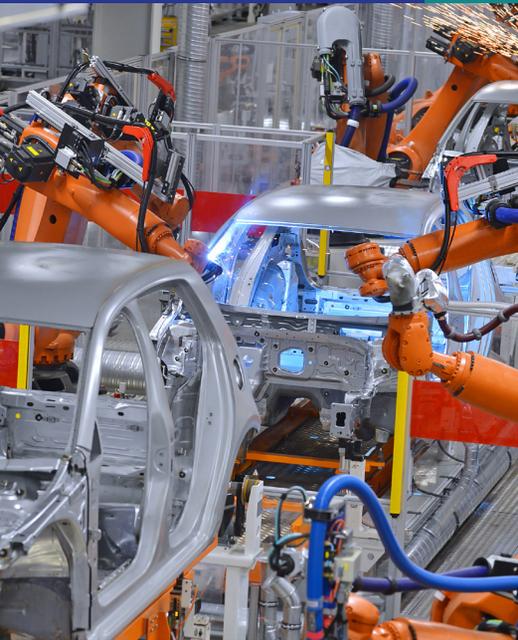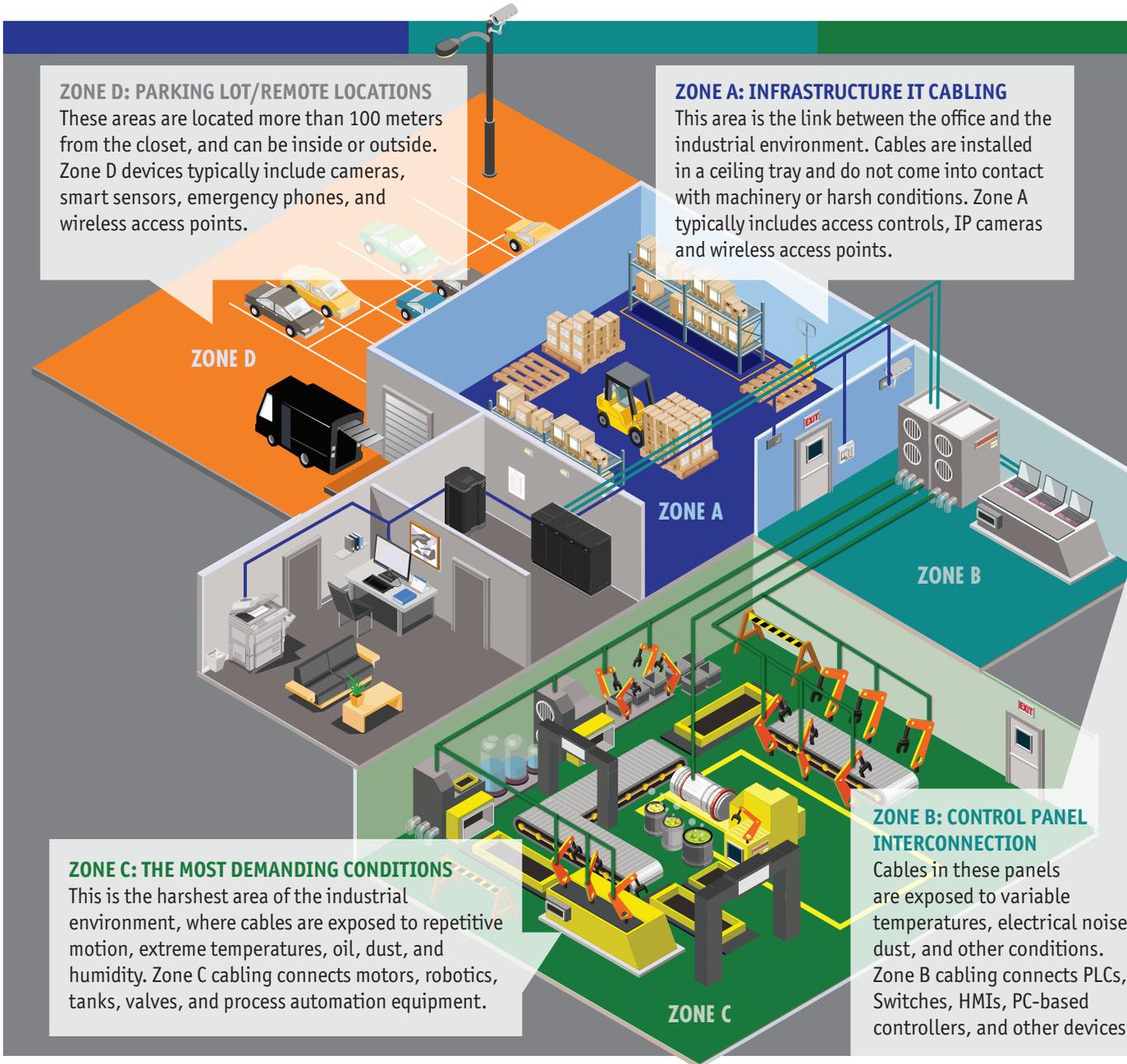# Industrial Ethernet
PRODUCT SELECTOR

Berk-Tek | a **LEVITON** company

CONNECT WITH CONFIDENCE

Downtime is lost time. And lost time means lost profitability. In harsh and industrial environments, you need reliable, worry-free performance for your Control, Monitor and Process applications. Berk-Tek Industrial Ethernet Solutions give you the confidence to make the connection by avoiding, eliminating and minimizing risk, and ultimately achieving 100% uptime.

ZONE D: PARKING LOT/REMOTE LOCATIONS
These areas are located more than 100 meters from the closet, and can be inside or outside. Zone D devices typically include cameras, smart sensors, emergency phones, and wireless access points.

ZONE D

ZONE A: INFRASTRUCTURE IT CABLING
This area is the link between the office and the industrial environment. Cables are installed in a ceiling tray and do not come into contact with machinery or harsh conditions. Zone A typically includes access controls, IP cameras and wireless access points.

ZONE A

ZONE B

ZONE C: THE MOST DEMANDING CONDITIONS
This is the harshest area of the industrial environment, where cables are exposed to repetitive motion, extreme temperatures, oil, dust, and humidity. Zone C cabling connects motors, robotics, tanks, valves, and process automation equipment.

ZONE C

ZONE B: CONTROL PANEL INTERCONNECTION
Cables in these panels are exposed to variable temperatures, electrical noise, dust, and other conditions. Zone B cabling connects PLCs, Switches, HMIs, PC-based controllers, and other devices.

PERFORMANCE RATING KEY: ZONE A | ZONE B | ZONE C

- Conductor
- Flame Rating
- Fungus Resistant
- Abrasion Resistance
- Weld Spatter Resistant
- Voltage Rating
- Operating Temperature
- Continuous High Flex Life
- Indoor/Outdoor Use
- Water block/resistance
- Oil Resistance I (60 ˚C) and II (75 ˚C)
- UV/Sunlight Resistance I (300hrs) and II (720hrs)
- Pull Tension
- Automation Protocol Compliance

EtherNet/IP ODVA   PROFINET   CC-Link IE Field

ZONE A | PRODUCT RECOMMENDATIONS | COPPER

ZONE A: INFRASTRUCTURE IT CABLING FROM THE ENTERPRISE NETWORK TO THE PLANT															
LANmark Industrial Light Duty Series															
		Physical Characteristics					**Performance Rating**								
		Construction	Wire Gauge	Shielding	Jacket Material	Nominal Diameter	⚫	🔥	⚡	☀	⚡	🌡	🖥	🎯	✔
Cat 5e	LANmark-A753	4 Pair U/UTP	24 AWG	None	PVC	0.23″	Solid	CMR CMX Outdoor	OR I	SR II	600V AWM	-40°C to 80°C	Yes	40 lbs.	EtherNet/IP
	LANmark-A774	4 Pair U/UTP	24 AWG	None	TPE	0.24″	Solid	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	40 lbs.	EtherNet/IP
	LANmark-A921	4 Pair U/UTP	24 AWG	None	PVC	0.23″	Solid	CMR CMX Outdoor	OR I	SR II	300V	-40°C to 75°C	No	40 lbs.	EtherNet/IP
Cat 6	LANmark-A689	4 Pair U/UTP	23 AWG	None	PVC	0.26″	Solid	CMR CMX Outdoor	OR I	SR II	600V AWM	-40°C to 80°C	Yes	40 lbs.	EtherNet/IP
	LANmark-A922	4 Pair U/UTP	23 AWG	None	PVC	0.26″	Solid	CMR CMX Outdoor	OR I	SR II	300V	-40°C to 75°C	No	40 lbs.	EtherNet/IP
Cat 6A	LANmark-A750	4 Pair X/UTP	23 AWG	Discontinuous Foil	PVC	0.31″	Solid	CMR CMX Outdoor	OR I	SR II	600V AWM	-40°C to 80°C	Yes	40 lbs.	EtherNet/IP
	LANmark-A920	4 Pair X/UTP	23 AWG	Discontinuous Foil	PVC	0.31″	Solid	CMR CMX Outdoor	OR I	SR II	300V	-40°C to 75°C	No	40 lbs.	EtherNet/IP

▸ = New product

ZONE A | PRODUCT RECOMMENDATIONS | FIBER

ZONE A: INFRASTRUCTURE IT CABLING FROM THE ENTERPRISE NETWORK TO THE PLANT											
		Physical Characteristics			**Performance Rating**						
		Construction	Jacket Material	Max Fibers	🔥	🏢	⚡	☀	💧	🐀	🌡
GIGAlite 0M1 - 0M4 or SMF	**Premises Distribution I/O**	Tight Buffer	PVC	144	Riser, Plenum	Indoor/Outdoor optional	No	No	optional	Yes	-40°C to 75°C
	Heavy Duty Breakout	Tight Buffer (Breakout Style)	PVC/PVDF	48(R) 36(P)	Riser, Plenum	Indoor/Outdoor optional	No	No	optional	Yes	-40°C to 75°C
	Adventum I/O	Loose Tube (DryGel)	PVC/PVDF/LSZH	432	Riser	Indoor/Outdoor	No	No	Yes	Yes	-40°C to 75°C
	Outside Plant All Dielectric	Loose Tube (Gel Filled)	MDPE	432	No	Outdoor	No	No	Yes	Yes	-40°C to 75°C

All Berk-Tek cables are suitable for tray installation. Berk-Tek fiber cables are available with Armor-Tek Aluminum for superior crush and rodent resistance.
Direct Bury with corrugated steel available on Adventum I/O and Outside Plant All Dielectric.

ZONE B | PRODUCT RECOMMENDATIONS | COPPER

			ZONE B: CONTROL PANEL INTERCONNECTION													
		LANmark Industrial Medium Duty Series														
		Physical Characteristics					Performance Rating									.
		Construction	Wire Gauge	Shielding	Jacket Material	Nominal Diameter										
Cat 5e	LANmark-B535	2 Pair U/UTP	24 AWG	None	TPE	0.24"	Solid	CM CMX Outdoor	OR II	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	EtherNet/IP
	LANmark-B536	2 Pair SF/UTP	24 AWG	Braid and Foil	TPE	0.27"	Solid	CMR CMX Outdoor	OR II	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	EtherNet/IP
	LANmark-B537	4 Pair SF/UTP	24 AWG	Braid and Foil	TPE	0.28"	Solid	CMR CMX Outdoor	OR II	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	EtherNet/IP
	LANmark-B789*	2 Pair SF/UTP	22 AWG	Braid and Foil	TPE	0.30"	Solid	CM CMX Outdoor	OR II	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	PROFINET
	LANmark-B587	2 Pair SF/UTP	24 AWG	Braid and Foil	PVC	0.26"	Stranded	CMR CMX Outdoor	OR I	SR I	-40°C to 80°C	600V AWM	No	40 lbs.	EtherNet/IP
	LANmark-B585	2 Pair U/UTP	24 AWG	None	PVC	0.24"	Stranded	CMR CMX Outdoor	OR I	SR I	-40°C to 80°C	600V AWM	No	40 lbs.	EtherNet/IP
	LANmark-B540	4 Pair U/UTP	24 AWG	None	PVC	0.25"	Stranded	CMR CMX Outdoor	OR I	SR I	-40°C to 80°C	600V AWM	No	40 lbs.	EtherNet/IP
	LANmark-B907	4 Pair SF/UTP	24 AWG	Braid and Foil	PVC	0.30"	Stranded	CMR CMX Outdoor	OR I	SR I	-40°C to 80°C	600V AWM	No	40 lbs.	EtherNet/IP
Cat 6	LANmark-B752	4 Pair F/UTP	23 AWG	Foil	PVC	0.31"	Solid	CMR CMX Outdoor	OR I	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	EtherNet/IP
	LANmark-B840*	4 Pair F/UTP	22 AWG	Foil	PVC	0.37"	Solid	CMR CMX Outdoor	OR I	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	
	LANmark-B917	4 Pair F/UTP	23 AWG	Foil	PVC	0.31"	Solid	CMR CMX Outdoor	OR I	SR II	-40°C to 75°C	300V	No	40 lbs.	EtherNet/IP
Cat 6A	LANmark-B751	4 Pair F/UTP	23 AWG	Foil	PVC	0.31"	Solid	CMR CMX Outdoor	OR I	SR II	-40°C to 80°C	600V AWM	Yes	40 lbs.	EtherNet/IP
	LANmark-B919	4 Pair F/UTP	23 AWG	Foil	PVC	0.31"	Solid	CMR CMX Outdoor	OR I	SR II	-40°C to 75°C	300V	No	40 lbs.	EtherNet/IP

* Tray Rating: LANmark-B840 is PLTC rated; LANmark-B789 is PLTC/ITC rated

▸ = *New product*

ZONE C | PRODUCT RECOMMENDATIONS | COPPER

		Physical Characteristics					Performance Rating									
ZONE C: NEAR MACHINES AND EQUIPMENT																
LANmark Industrial Heavy Duty Series																
		Construction	Wire Gauge	Shielding	Jacket Material	Nominal Diameter										
Cat 5e	LANmark-C541	2 Pair SF/UTP	24 AWG	Braid and Foil	TPE	0.26"	Stranded	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	EtherNet/IP
	LANmark-C542	4 Pair SF/UTP	24 AWG	Braid and Foil	TPE	0.30"	Stranded	CMR CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	EtherNet/IP CC-Link IE
	LANmark-C538	2 Pair U/UTP	24 AWG	None	TPE	0.24"	Stranded	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	EtherNet/IP
	LANmark-C539	4 Pair U/UTP	24 AWG	None	TPE	0.24"	Stranded	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	EtherNet/IP
	LANmark-C547*	2 Pair SF/UTP	22 AWG	Braid and Foil	TPE	0.31"	Stranded	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	PROFINET
	LANmark-C826*	2 Pair SF/UTP	22 AWG	Braid and Foil	TPE	0.31"	Stranded	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	
	LANmark-C851*	2 Pair SF/UTP	22 AWG	Braid and Foil	TPE	0.31"	Stranded	CM CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	EtherNet/IP
Cat 6A	LANmark-C545	4 Pair SF/UTP	24 AWG	Braid and Foil	TPE	0.32"	Stranded	CMR CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	EtherNet/IP CC-Link IE
	LANmark-C637	4 Pair SF/UTP	26 AWG	Braid and Foil	TPE	0.29"	Stranded	CMR CMX Outdoor	OR II	SR II	600V AWM	-40°C to 80°C	Yes	35 million	75 cycles/ 1.5 lb	40 lbs.	CC-Link IE

▰ = *New product*
* Tray Rating: LANmark-C547 and LANmark-C826 are PLTC/ITC rated; LANmark-C851is PLTC rated

ZONE C | PRODUCT RECOMMENDATIONS | FIBER

		Physical Characteristics					Performance Rating				
ZONE C: NEAR MACHINES AND EQUIPMENT											
		Construction	Jacket Material	Max Fibers							
GIGAlite 0M1 - 0M4 or SMF	**Premises Distribution Harsh Environment**	Tight Buffer	PVDF	144	Plenum	Indoor/Outdoor	Yes	Yes	Yes	Yes	-40°C to 75°C
	Adventum Harsh Environment	Loose Tube (DryGel)	PVDF	432	Plenum	Indoor/Outdoor	Yes	Yes	Yes	Yes	-40°C to 75°C

FIELD INSTALLABLE CONNECTORS | ZONES A, B, C

These field-installable plug kits are optimized for LANmark industrial cables based on diameter, wire size and application performance.

CONNECTOR TYPE	INGRESS PROTECTION	SHIELDING	CONNECTOR NAME	OPTIMIZED FOR THESE LANMARK IE CABLES
RJ-45	IP-20	Unshielded	B540-RJU-PK	B540, C539, C538, B535, B585, A774
			A753-RJU-PK	A753, A921
			A689-RJU-PK	A689, A922
		Shielded	C542-RJS-PK	C542, B907, A750, B751, B752, A920, B919, B917
			B537-RJS-PK	B537, C541, B585
			C637-RJS-PK	C637
			C545-RJS-PK	C545
M12 D-Code	IP-67	Shielded	C541-M12D-PK	C541, C547, C538, B587, B535, B585
M12 X-Code	IP-67	Shielded	C545-M12X-PK	C545, C637, A750, B751, A689, B752, B919, A920, B917, A922, B840

PRE-TERMINATED CORDSETS

All LANmark Industrial Ethernet cables are sold as cordsets in various configurations and lengths upon request.
Below are some representative designs.

	CONNECTOR TYPE	INGRESS PROTECTION	TYPICAL CORDSETS
Copper	RJ-RJ	IP-20	B540-RR-2M, B540-RR-5M, C542-RR-2M, C542-RR-5M, C637-RR-2M, C637-RR-5M
	M12-M12 D-Code	IP-67	C541-MMD-2M, C541-MMD-5M, C538-MMD-2M, C538-MMD-5M
Fiber	LC-LC	IP-20	Fiber type-LC-LC-xxx
	MPO-MPO	IP-20	Fiber type-MPO-MPO-xxx

ZONE D | NEWTORK CHANNEL EXTENDERS

Building automation, security and WiFi systems often require devices to be located more than 100 meters from the switch. Security cameras, emergency phones, wireless access points, and access control devices can be located in parking lots, parking garages, and at various other places inside and outside the building. Connecting and powering these devices can present a challenge.

The Network Channel Extenders are the industry's most comprehensive solution set for extended PoE. These solutions enable you to extend your network simply and cost-effectively, providing data connectivity and power to any smart building device in virtually any installation environment.

For more information and product data sheets, visit www.leviton.com/berktek.	DESCRIPTION	AVAILABLE POWER TYPES	BANDWIDTH	MAX DISTANCE*	NUMBER OF PORTS	INSTALLATION	SURGE PROTECTION	MANAGEMENT
EXT-100	A cost-effective way to extend the reach of standard PoE+ up to 1,200 feet, EXT-100 is ideal for security cameras, VoIP phones and access control devices located both inside and outside the building.	PoE (15 W, 802.3af) PoE+ (30 W, 802.3at)	10/100 Mbps	2,000 ft	1	Indoor/ Outdoor**	None	None
OneReach™	OneReach utilizes a copper/ fiber (multimode or single-mode) cable to extend PoE+ (30 Watts) and up to 1 Gbps to a kilometer away, and is well-suited for security cameras, wireless access points, and other devices located more than 100 meters from the switch.	PoE (15 W, 802.3af) PoE+ (30 W, 802.3at) HPoE (60 W, non-standard)	10/100/1000 Mbps	8,200 ft	1, 2 or 4	Indoor/ Outdoor**	Basic	None

All items require grounding or a grounded outlet.
*See individual product data sheets for distance details. **Outdoor locations require NEMA-rated enclosures.

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