

Frequently Asked Questions

Please visit Icron's website for answers to FAQs: <http://www.icron.com/faq>

Specifications - USB Ranger 2201

Range	100m (330ft) over Cat 5e (or better) cable
USB device support	High-speed devices (480 Mb/s) (USB 2.0) Full speed devices (12 Mb/s) (USB 2.0 & 1.1) Low speed devices (1.5 Mb/s) (USB 2.0 & 1.1)
USB hub support	Any single chain can include up to 3 USB hubs plus one USB Ranger® 2201.
USB host support	EHCI (USB 2.0) and OHCI/UHCI (USB 1.1)
Maximum USB devices supported	14 USB devices or 3 USB hubs with 11 USB devices.
AC adapter(s)	Input: 100/240 V AC, 50 – 60 Hz, 600 mA maximum Output: 5 V DC, 3 A
AC adapter connector	1.7 mm centre-positive jack
Current available to USB device at REX unit	500 mA
LEX unit USB connector	1 x USB Type B
LEX unit Link connector	1 x RJ45
REX unit Link connector	1 x RJ45
REX unit USB connector	1 x USB Type A
LEX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
REX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
LEX power consumption	500 mA maximum
REX power consumption	Approx. 500 mA (No Load). 1.5A (Full load)
System shipping weight	2.0 lbs. (0.9 kg)
Operating temperature range	0°C to 50°C
Storage temperature range	-20°C to 70°C
Operating humidity	20% to 80% relative humidity, non-condensing
Storage humidity	10% to 90% relative humidity, non-condensing
Regulatory testing	FCC (Class B), IC (Class B), CE (Class B)
ESD rating	EMC EN-61000-4-2 8kV Contact, 16kV Air

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Specifications - USB Ranger 2204

Range	330 feet (100 meters) over Cat 5e (or better) cable
USB device support	High-speed devices (480 Mb/s) (USB 2.0) Full speed devices (12 Mb/s) (USB 2.0 & 1.1) Low speed devices (1.5 Mb/s) (USB 2.0 & 1.1)
USB hub support	Any single chain can include up to 3 USB hubs plus one Ranger 2204.
USB host support	EHCI (USB 2.0) and OHCI/UHCI (USB 1.1)
Maximum USB devices supported	14 USB devices or 3 USB hubs with 11 USB devices.
AC adapter(s)	Input: 100/240 V AC, 50 – 60 Hz, 600 mA maximum Output: 5 V DC, 3 A
AC adapter connector	1.7 mm centre-positive jack
Power available to USB device at REX unit	500 mA each port
LEX unit USB connector	1 x USB Type B
LEX unit Link connector	1 x RJ45
REX unit Link connector	1 x RJ45
REX unit USB connector	4 x USB Type A
LEX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
REX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
LEX power consumption	500 mA maximum
REX power consumption	Approx. 500 mA (No Load). 2.5A (Full load)
System shipping weight	2.0 lbs. (0.9 kg)
Operating temperature range	0°C to 50°C
Storage temperature range	-20°C to 70°C
Operating humidity	20% to 80% relative humidity, non-condensing
Storage humidity	10% to 90% relative humidity, non-condensing
Regulatory testing	FCC (Class B), IC (Class B), CE (Class B)
ESD rating	EMC EN-61000-4-2 8kV Contact, 16kV Air

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Specifications - USB Ranger 2211

Range	100m (330ft) over Cat 5e (or better) cable
USB device support	High-speed devices (480 Mb/s) (USB 2.0) Full speed devices (12 Mb/s) (USB 1.1) Low speed devices (1.5 Mb/s) (USB 1.1)
USB hub support	Any single chain can include up to 4 USB hubs plus 1 USB Ranger® 2211.
USB host support	EHCI (USB 2.0) and OHCI/UHCI (USB 1.1)
Maximum USB devices supported	14 USB devices or 4 USB hubs with 10 USB devices.
AC adapter	Input: 100/240 V AC, 50 – 60 Hz, 600 mA maximum Output: 24V DC, 1A
AC adapter connector	2.1 mm centre-positive jack
Current available to USB device at remote extender	500 mA
System shipping weight	1.35 lbs. (0.62 kg)
Local Extender	
USB connector	1 x USB Type B
Link connector	1 x RJ45
Dimensions	3.35" x 1.10" x 2.25" (85 mm x 28 mm x 57 mm)
Remote Extender	
USB connector	1 x USB Type A
Link connector	1 x RJ45
Dimensions	3.35" x 1.10" x 2.25" (85 mm x 28 mm x 57 mm)
Environmental	
Operating temperature range	32°F to 122°F (0°C to 50°C)
Storage temperature range	-4°F to 158°F (-20°C to 70°C)
Operating humidity	20% to 80% relative humidity, non-condensing
Storage humidity	10% to 90% relative humidity, non-condensing
Regulatory testing	FCC (Class A), IC (Class A), CE (Class A) FCC Part 15 Class A, CE Class A, ICES-003 Class A

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Specifications - USB Ranger 2212

Range	330 feet (100 meters) over Cat 5e (or better) cable
USB device support	High-speed devices (480 Mb/s) (USB 2.0) Full speed devices (12 Mb/s) (USB 2.0 & 1.1) Low speed devices (1.5 Mb/s) (USB 2.0 & 1.1)
USB hub support	Any single chain can include up to 3 USB hubs plus one Ranger 2212.
USB host support	EHCI (USB 2.0) and OHCI/UHCI (USB 1.1)
Maximum USB devices supported	14 USB devices or 3 USB hubs with 11 USB devices
AC adapter(s)	Input: 100/240 V AC, 50 – 60 Hz, 600 mA maximum Output: 24V DC, 1A
AC adapter connector	2.1 mm centre-positive jack
Power available to USB device at REX unit	500 mA each port
LEX unit USB connector	1 x USB Type B
LEX unit Link connector	1 x RJ45
REX unit Link connector	1 x RJ45
REX unit USB connector	2 x USB Type A
LEX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
REX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
System shipping weight	2.2 lbs. (1.0 kg)
Operating temperature range	0°C to 50°C
Storage temperature range	-20°C to 70°C
Operating humidity	20% to 80% relative humidity, non-condensing
Storage humidity	10% to 90% relative humidity, non-condensing
Regulatory testing	FCC (Class B), IC (Class B), CE (Class B)
ESD rating	EMC EN-61000-4-2 4kV Contact, 8kV Air

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Specifications - USB Ranger 2224-Set

Range	1640 feet (500 meters) over 50/125µm MMF 902 feet (275 meters) over 62.5/125µm MMF
USB device support	High-speed devices (480 Mb/s) (USB 2.0) Full speed devices (12 Mb/s) (USB 2.0 & 1.1) Low speed devices (1.5 Mb/s) (USB 2.0 & 1.1)
USB hub support	Any single chain can include up to 3 USB hubs plus one Ranger 2224.
USB host support	EHCI (USB 2.0) and OHCI/UHCI (USB 1.1)
Maximum USB devices supported	14 USB devices or 3 USB hubs with 11 USB devices.
AC adapter(s)	Input: 100/240 V AC, 50 – 60 Hz, 600mA maximum Output: 5 V DC, 3 A
AC adapter connector	1.7 mm centre-positive jack
Power available to USB device at REX unit	500 mA each port
LEX unit USB connector	1 x USB Type B
LEX unit Link connector	1 x Duplex LC
REX unit Link connector	1 x Duplex LC
REX unit USB connector	4 x USB Type A
LEX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
LEX power consumption	500 mA Maximum
REX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
REX power consumption	Approx. 500 mA (No Load). 2.5A (Full load)
System shipping weight	2.0 lbs. (0.9 kg)
Operating temperature range	0°C to 50°C
Storage temperature range	-20°C to 70°C
Operating humidity	20% to 80% relative humidity, non-condensing
Storage humidity	10% to 90% relative humidity, non-condensing
Regulatory testing	FCC (Class B), IC (Class B), CE (Class B)
ESD rating	EMC EN-61000-4-2 8kV Contact, 16kV Air

Frequently Asked Questions

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Specifications - USB Ranger 2244-Set

Range	6 miles (10km) over SMF
USB device support	High-speed devices (480 Mb/s) (USB 2.0) Full speed devices (12 Mb/s) (USB 2.0 & 1.1) Low speed devices (1.5 Mb/s) (USB 2.0 & 1.1)
USB hub support	Any single chain can include up to 3 USB hubs plus one Ranger 2244.
USB host support	EHCI (USB 2.0) and OHCI/UHCI (USB 1.1)
Maximum USB devices supported	14 USB Devices or 3 USB hubs with 11 USB devices.
AC adapter(s)	Input: 100/240 V AC, 50 – 60 Hz, 600 mA maximum Output: 5 V DC, 3 A
AC adapter connector	1.7 mm centre-positive jack
Power available to USB device at REX unit	500 mA each port
LEX unit USB connector	1 x USB Type B
LEX unit Link connector	1 x Duplex LC
REX unit Link connector	1 x Duplex LC
REX unit USB connector	4 x USB Type A
LEX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
LEX power consumption	500 mA Maximum
REX unit dimensions	3.94" x 2.99" x 1.02" (100 mm x 76 mm x 26 mm)
REX power consumption	Approx. 500 mA (No Load). 2.5A (Full load)
System shipping weight	2.0 lbs (0.9 kg)
Operating temperature range	0°C to 50°C
Storage temperature range	-20°C to 70°C
Operating humidity	20% to 80% relative humidity, non-condensing
Storage humidity	10% to 90% relative humidity, non-condensing
Regulatory testing	FCC (Class B), IC (Class B), CE (Class B)
ESD rating	EMC EN-61000-4-2 8kV Contact, 16kV Air

Specifications - USB Ranger 2304-LAN

RANGE	
Direct Connect	Up to 100m (330 ft) over solid core Cat 5e or better
Network Connect	Up to 100m (330 ft) between switches* over solid core Cat 5e
USB DEVICE SUPPORT	
Maximum Throughput	Up to 480Mbps*
Traffic Types	Interrupt and Bulk**
Device Types	HID (Mouse and Keyboard), Hubs, Storage Devices**
NETWORKING	
Standards	100BASE-T and 1000BASE-T*
Data Traffic	Layer 2
LOCAL EXTENDER (LEX)	
USB Connector	1 x USB 2.0 Type B Receptacle
Link Connector	1 x RJ45
Dimensions	100mm x 76mm x 26mm (3.9" x 3.0" x 1.0")
Enclosure Material	Silver Anodized Aluminum
REMOTE EXTENDER (REX)	
USB Connectors	4 x USB 2.0 Type A Receptacles
Link Connector	1 x RJ45
Dimensions	100mm x 76mm x 26mm (3.9" x 3.0" x 1.0")
Enclosure Material	Silver Anodized Aluminum
Available Current	600mA at each USB port concurrently
Power Supply	100-240V AC input, 24V 1A DC Output
ENVIRONMENTAL	
Operating Temperature Range	0°C to 50°C (32°F to 122°F)
Storage Temperature Range	-10°C to 60°C (14°F to 140°F)
Operating Humidity	20% to 80% relative humidity, non-condensing
Storage Humidity	10% to 90% relative humidity, non-condensing
COMPLIANCE	
EMC	FCC (Class B), CE (Class B)
Environmental	RoHS2 (CE)
SUPPORT	
Warranty	2 years

* Maximum speed is heavily dependant on network configuration, bandwidth and performance.
1000Base-T is highly recommended for best performance.

** Isochronous devices such as webcams and audio devices are not supported.

Specifications - USB Ranger 2304

RANGE	
Direct Connect	Up to 100m (330 ft) over solid core Cat 5e or better
USB DEVICE SUPPORT	
Maximum USB 2.0 Throughput	Up to 480Mbps
Maximum USB 1.1 Throughput	Up to 12Mbps
Traffic Types	All USB 2.0 and 1.1 Traffic Types
Device Types	All USB 2.0 and 1.1 Device Types
Number of Devices and/or Hubs	17
LOCAL EXTENDER (LEX)	
USB Connector	1 x USB 2.0 Type B Receptacle
Link Connector	1 x RJ45
Dimensions	100mm x 76mm x 26mm (3.9" x 3.0" x 1.0")
Enclosure Material	Silver Anodized Aluminum
REMOTE EXTENDER (REX)	
USB Connectors	4 x USB 2.0 Type A Receptacles
Link Connector	1 x RJ45
Dimensions	100mm x 76mm x 26mm (3.9" x 3.0" x 1.0")
Enclosure Material	Silver Anodized Aluminum
Available Current	600mA at each USB port concurrently
Power Supply	100-240V AC input, 24V 1A DC Output
ENVIRONMENTAL	
Operating Temperature Range	0°C to 50°C (32°F to 122°F)
Storage Temperature Range	-10°C to 60°C (14°F to 140°F)
Operating Humidity	20% to 80% relative humidity, non-condensing
Storage Humidity	10% to 90% relative humidity, non-condensing
COMPLIANCE	
EMC	FCC (Class B), CE (Class B)
Environmental	RoHS2 (CE)
SUPPORT	
Warranty	2 years

Specifications - USB 3.0 Spectra 3001-15

RANGE	
Active Copper Cable	15m (49.21 ft)
SPEEDS	
USB 3.0	Up to 5Gbps (Not backward compatible with USB 2.0/1.1)
PHYSICAL	
USB Connector on Device Side	1 x USB 3.0 Type A Locking Receptacle per AIA USB 3 Vision™ specification
USB Connectors on Host Side	1 x USB 3.0 Host Connector and 1 x USB 3.0 Power Connector (recommended for devices drawing more than 2.5W)
Cable Diameter	6.9mm (0.27")
Jacket Material	PVC
Minimum Bend Radius	28mm (1.10")
Mounting Slots on Device Side	Slots for Cable Tie
POWER	
Power Source	Bus Power
Available Power to Device	5V, 900mA*
ENVIRONMENTAL	
Operating Temperature Range	0°C to 45°C (32°F to 113°F)
Storage Temperature Range	-20°C to 70°C (-4°F to 158°F)
Operating Humidity	20% to 80% relative humidity, non-condensing
Storage Humidity	10% to 90% relative humidity, non-condensing
COMPLIANCE	
EMC	FCC (Class B), CE (Class B)
Environmental	RoHS2 (CE)
Flammability	VW-1 (UL 1581)
Machine Vision	Works with AIA USB3 Vision compliant devices
SUPPORT	
Warranty	2-year

*When both connectors are plugged into the host computer.

Specifications - USB Spectra 3022

Distance*	<table border="1"> <thead> <tr> <th>Multimode Fiber Class</th> <th>Cameras</th> <th>Storage</th> </tr> </thead> <tbody> <tr> <td>OM2</td> <td>50m</td> <td>50m</td> </tr> <tr> <td>OM3</td> <td>100m</td> <td>50m</td> </tr> </tbody> </table>	Multimode Fiber Class	Cameras	Storage	OM2	50m	50m	OM3	100m	50m	* Up to 50m with USB 3.0 storage type devices and up to 100m is achievable when using USB 3.0 bulk traffic cameras.
	Multimode Fiber Class	Cameras	Storage								
	OM2	50m	50m								
OM3	100m	50m									
USB Device Support & Throughputs	USB 3.0 up to 5 Gbps (Not backward compatible with USB 2.0/1.1)										
USB Host Support	xHCI Controllers (Intel, AMD, Renesas (NEC), Fresco, AsMedia)										
Enclosure Material	Anodized Aluminum										
LEX (Local Extender)											
USB Connector	1 x USB 3.0 Type B Locking Receptacle per AIA USB3 Vision™ specification										
Link Connector	1 x Duplex LC Connector										
Dimensions	100mm x 76mm x 26mm (3.94" x 2.99" x 1.02")										
REX (Remote Extender)											
USB Connectors	2 x USB 3.0 Type A Locking Receptacles per AIA USB3 Vision™ specification										
Link Connector	1 x Duplex LC Connector										
Dimensions	100mm x 76mm x 26mm (3.94" x 2.99" x 1.02")										
Power Connector	24V DC, 1A, Locking, 2.5 mm, center-positive										
Available Current	900mA for each USB Port										
Power Supply	100-240V AC Brick, Locking										
ENVIRONMENTAL											
Operating Temperature Range	0°C to 50°C (32°F to 122°F)										
Storage Temperature Range	-20°C to 70°C (-4°F to 158°F)										
Operating Humidity	20% to 80% relative humidity, non-condensing										
Storage Humidity	10% to 90% relative humidity, non-condensing										
COMPLIANCE											
EMC	FCC (Class B), CE (Class B)										
Environmental	RoHS2 (CE)										
Machine Vision	Works with AIA USB3 Vision™ compliant devices										
SUPPORT											
Warranty	2-year										