ICON® Instrumentation Cable

PLTC/ITC and TC Types

The Quality Connection

LEONI

Product range

Telecommunication cables
Data- and Bus cables (copper and fiber optic)
Mining cables
Cables for special applications
Instrumentation- and control cables
Thermocouple extension and compensating cables
Power cables (low and medium voltage)

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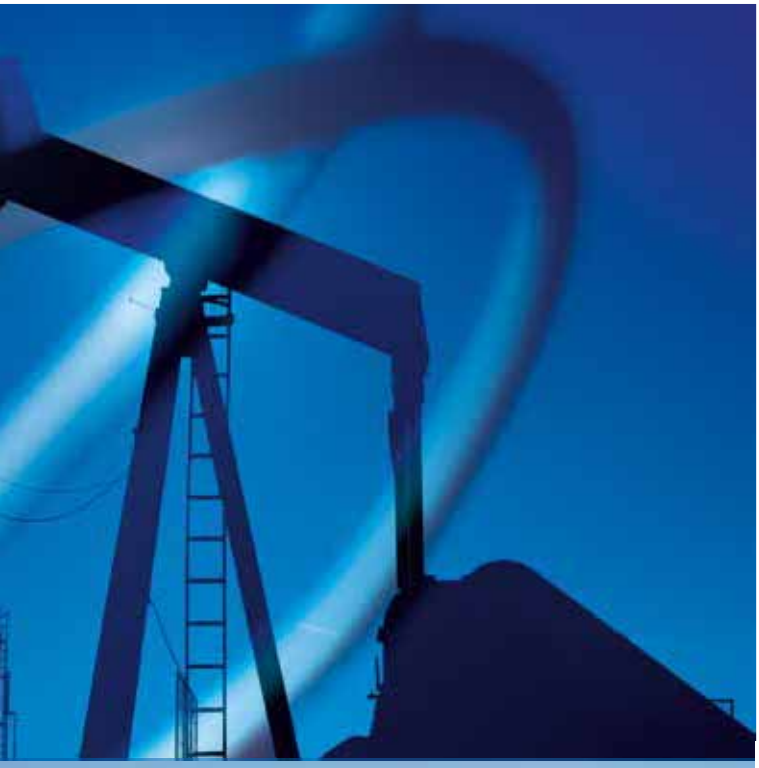
The product program "Instrumentation Cable ICON" covers products which are based on the European standard EN 50288-7 and the US-American standards UL 13, UL 2250 and UL 1277. This product program gives extensive coverage to the requirements of the different Installation and Safety Regulations which are applied for measurement, control and monitoring systems in industrial plants. As a result the user has a product program at his disposal for applications world wide.

On the solid basis of many years of experience in international business (either project-oriented or geared to the site requirements of the customers), we have defined a very wide product range designed to meet all your field-driven product requirements.
We have selected and elaborated a product program designed to cover all usual applications. The diversity of the environmental, electrical, mechanical, installation and safety requirements produces a need for an extensive range of products.

In this catalog you will find a product guide showing the complete UL instrumentation product range of LEONI Industrial Projects and data sheets of the most common types.



AL-laminated jacket
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Instrumentation & Control Cables 300 V
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Instrumentation & Control Cables 600 V
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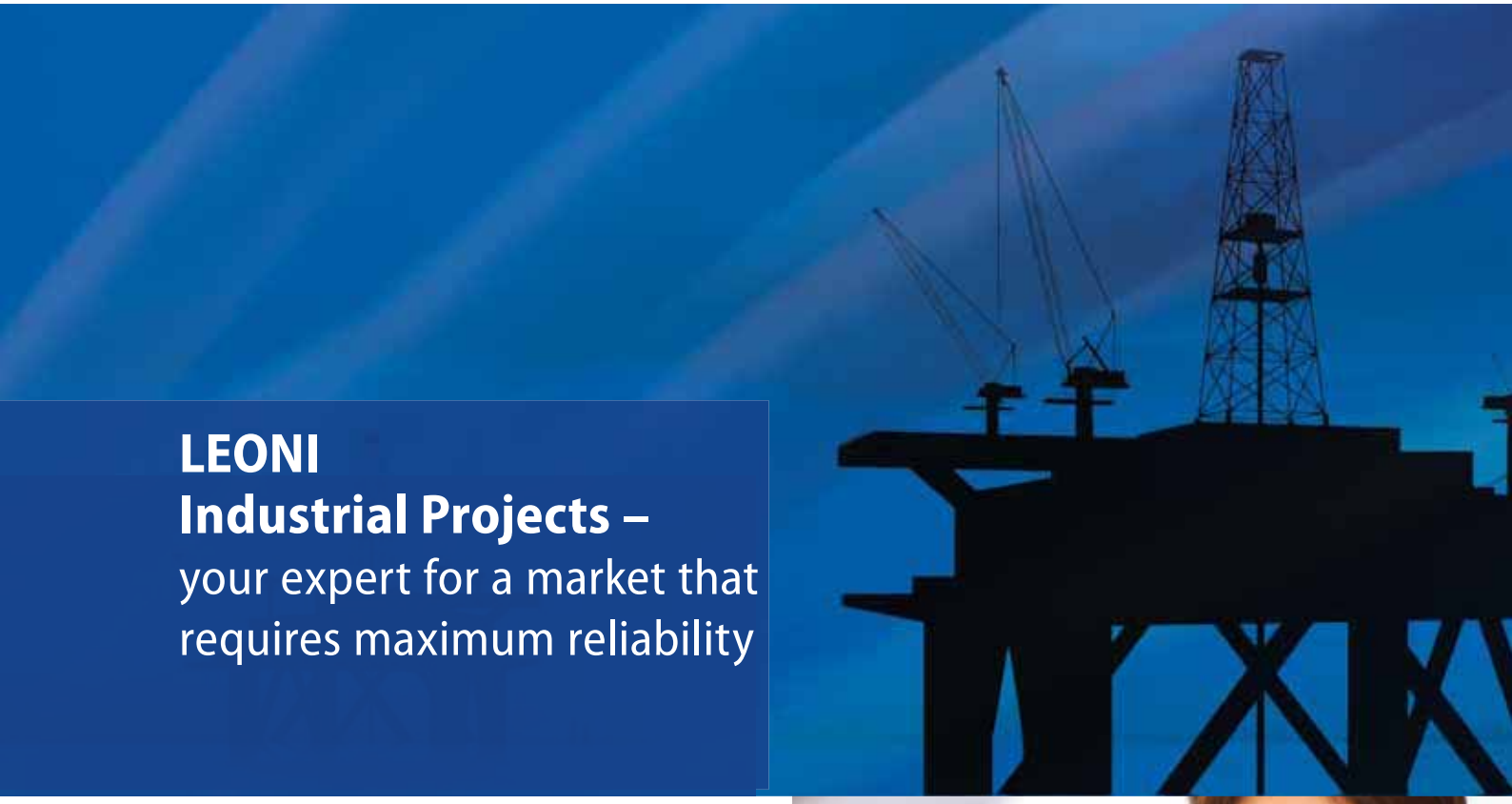


LEONI
Industrial Projects –
your expert for a market that requires maximum reliability

Please visit our website
www.leoni-industrial-projects.com

LEONI is one of the leading suppliers of standardized and customer-specific special cables and pre-assembled cable systems worldwide.

The Business Unit Industrial Projects allows us to give our customers access to the entire competence of a worldwide corporation, focused to meet the needs of industrial applications. We supply our products and solutions wherever everything depends on maximum reliability, quality and durability, such as in oil and gas extraction and processing as well as in the petrochemical and energy production industries. LEONI products are to be found in many other applications such as the pulp and paper, cement and pharmaceutical industries and in waste management, in which processes have to run in a controlled way via sensors and actuators.

For us reliability doesn't just mean keeping the right product avail-able for you as a standard product or developing a project solution for you – it also means supplying it precisely at the agreed time.

Safety, availability and reliability are vital in industrial plant engineering and energy provision. This is because these are fields in which unexpected breakdowns are very expensive and have critical effects on the environment.

Companies are asking for solutions which are perfectly tailored to meet the application in question as well as the plant itself. 70 % of the cables leaving our company are developed, manufactured and assembled according to customer specifications. We produce quantities depending on the requirements of the projects and supply according to cable drumming schedules. We are also equipped to provide project quantities in a considerable two-digit million euro range. We take into account company-specific standards as well as all important industrial and environmental standards on the national and international level.

ICON UL Program

The product range of instrumentation cables acc. to UL

UL 13, UL 2250 and UL 1277
Instrumentation, Control and Thermocouple extension cables according to above standards have to be applied in those systems, where “Installation and Safety regulations“ are based on the “National Electrical Code“ (NEC).

The NEC Handbook is published by the “National Fire Protection Association“ a leading US standardization for safety, particularly for fire protection. As installation guide it is mandatory in the USA, however, it is also practiced in some other countries.

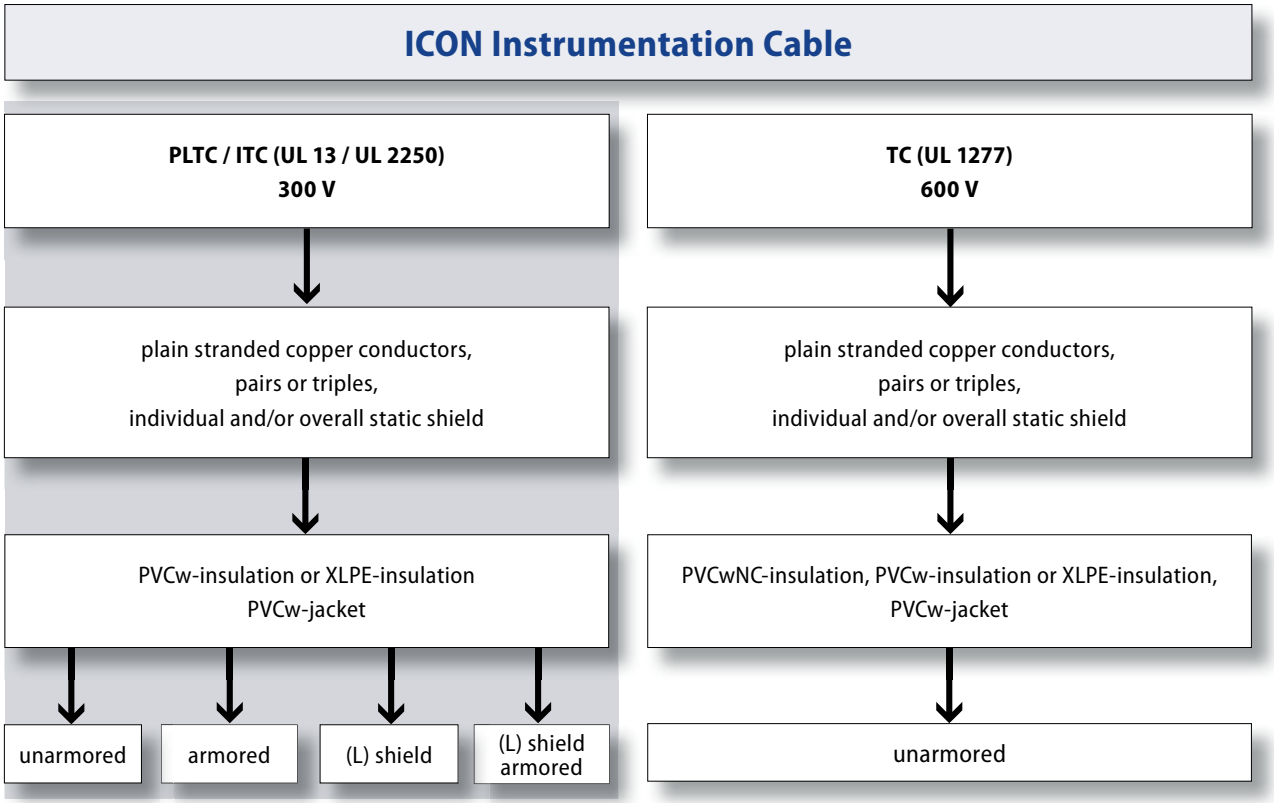
Instrumentation, Control and Thermocouple extension cables will thereby meet the following standards and types:

300 V “Power Limited Tray Cable” (PLTC) acc. to UL 13
“Instrumentation Tray Cable”(ITC) acc. to UL 2250

600 V “Tray Cable” (TC) acc. to UL 1277

ICON® Instrumentation Cable

Common types



ICON Instrumentation Cable according to UL 13 / 2250

Common types

Single & multi pair and single & multi triple, individual and/or overall shield, PVC-jacket

- **unarmored**
- **armored**
- **(L) shielded**
- **(L) shielded, armored**

300 V

Technical data			
Type of insulation/jacket		PVCw/PVCw	XLPE/PVCw
Type of cabling elements		Pair, Triple, PiMF, TiMF	
No. of cabling elements		1, 2, 4, 6, 8, 10, 12, 16, 24, 36	
Conductor sizes		AWG 20/7, AWG 18/7, AWG 16/7, AWG 14/7	
1. Unarmored types		RE-Yw(St)Yw-fl	RE-2X(St)Yw-fl
Laying		Recommended for outdoor installation, on racks, trays, in conduits, in dry and wet locations, for direct burial [2]	
Bending radius		7.5 x cable diameter	
2. Armored types		RE-Yw(St)YwSWAYw-fl	RE-2X(St)YwSWAYw-fl
Laying		Recommended for outdoor installation, on racks, trays, in conduits, in dry and wet locations, for direct burial [2]	
Bending radius		10 x cable diameter	
3. (L) shielded type		RE-Yw(St)Yw(L)Yw-fl	RE-2X(St)Yw(L)Yw-fl
Laying		Recommended for outdoor installation, on racks, trays, in conduits, in dry and wet locations, for direct burial	
Bending radius		15 x cable diameter	
4. (L) shielded type, armored		RE-Yw(St)Yw(L)YwSWAYw-fl	RE-2X(St)Yw(L)YwSWAYw-fl
Laying		Recommended for outdoor installation, on racks, trays, in conduits, in dry and wet locations, for direct burial	
Bending radius		15 x cable diameter	
Reaction to fire			
Flame propagation a) Test on single cable b) Test on bunched cables		UL 13 VW-1 test, IEC 60332-1 UL 1685, IEC 60332-3 part 24 (Cat.C)	
Temperature range	during operation during installation	–40 °C up to 105 °C –5 °C up to 50 °C	–40 °C up to 90 °C –5 °C up to 50 °C
Sunlight resistance		UL 1581 Section 1200	
Oil resistance		ICEA S-72-532	
Application		For transmission of analogue and digital signals in instrument and control systems in complianc with NEC article 725.154; allowed for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B), not allowed for direct connection to low impedance sources, e.g. public mains electricity supply	

[1] *Color code of cabling elements see general.*
[2] *if applicable.*

ICON Instrumentation Cable according to UL 13 / 2250

Common types

Single & multi pair and single & multi triple, individual and/or overall shield, PVC-jacket

- unarmored
- armored
- (L) shielded
- (L) shielded, armored

300 V

Construction					
Product types		Unarmored types	Armored types	(L) shielded types	L() shielded types, armored
Conductor		Plain annealed copper; 7 stranded according to UL 13			
size	AWG	AWG 20/7	AWG 18/7	AWG 16/7	AWG 14/7
Conductor design	mm	7 x 0.320	7 x 0.404	7 x 0.490	7 x 0.620
Insulation materials		Cross linked polyethylene XLPE or Polyvinyl chloride heat resistant PVCw			
Cabling element [1]					
without individual shield		Pair, Triple			
with individual shield		PiMF, TiMF			
Individual shield		Aluminum/plastic-tape over solid tinned copper drain wire, plastic-tape under and above shield			
Wrapping		at least one plastic tape above cable core			
Overall shield		Aluminum/plastic-tape over stranded tinned copper drain wire			
Inner jackets		—	PVCw, black		
L() shield		—	—	Laminated aluminium tape	
Armoring		—	Galvanized steel wire armor; wire diameter depending on cable diameter under armoring, at least 0.9 mm	—	Galvanized steel wire armor; wire diameter depending on cable diameter under armoring, at least 0.9 mm
Outer jacket		PVCw			
Color		black or blue for intrinsically safe systems			
Marking		LEONI KERPEN ICON PLTC/ITC SIZE MATERIAL TYPE OF SHIELD UL TEMPERATURE RATING SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET			

[1] *Color code of cabling elements see general.*
[2] *if applicable.*

ICON Instrumentation Cable according to UL 13 / 2250
Common types

Single & multi pair and single & multi triple, individual and/or overall shield, PVC-jacket

- unarmored
- armored
- (L) shielded
- (L) shielded, armored

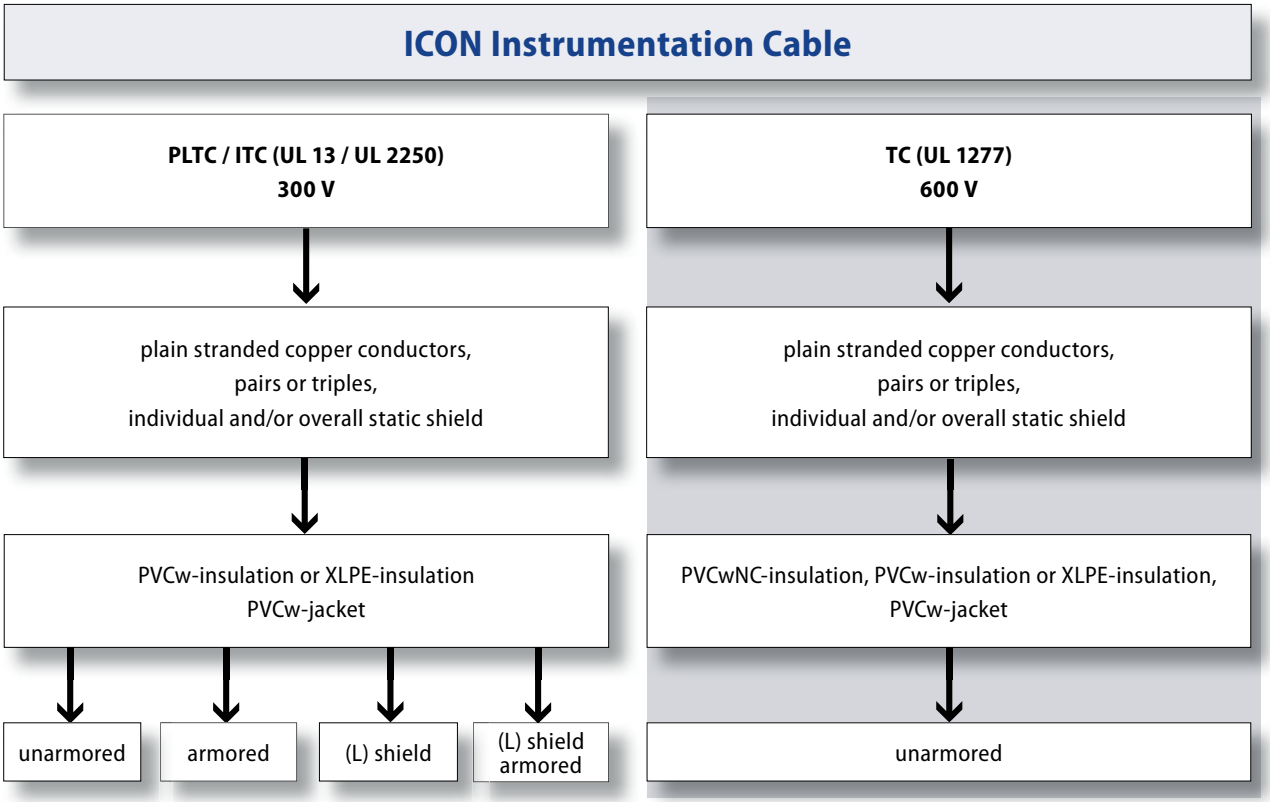
300 V

Electrical Data at 20 °C			300 V			
Conductor sizes	nom.	AWG	AWG 20/7	AWG 18/7	AWG 16/7	AWG 14/7
Conductor resistance	max.	Ω/km	35.8	22.8	14.3	9.0
Insulation resistance at 15.6 °C PVCw-insulation	min.	MΩxkm	30.5			
XLPE-insulation	min.	MΩxkm	30.5			
Inductance	max.	mH/km	1 (0.75 for (L) shielded types)			
Mutual capacitance						
PVCw-insulation Pair, Triple [1) 2)] PiMF, TiMF	max.	nF/km	200 200			
XLPE-insulation Pair, Triple [1) 2)] PiMF, TiMF	max.	nF/km	125 125			
Test voltage Core/core (U_{rms}) Core/shield (U_{rms})		V	1500 1500			
Operating voltage (U_{rms})	max.	V	300			

[1)] *Values for cables with 1 element correspond to those for PiMF and TiMF resp.*
[2)] *Values for cables with >1 element -30 %.*

ICON® Instrumentation Cable

Common types



ICON Instrumentation Cable according to UL 1277
Common types

600 V

Single & Multi pair and Single & Multi triple, individual and/or overall shield, PVC-jacket
- unarmored

Technical data			
Type of insulation/jacket	PVCw/PVCw	PVCwNC/PVCw	XLPE/PVCw
Type of cabling elements	Pair, Triple, PiMF, TiMF		
No. of cabling elements	1, 2, 4, 6, 8, 10,12, 16, 24, 36		
Conductor sizes	AWG 18/7, AWG 16/7, AWG 14/7		
1. Unarmored types	RE-Yw(St)Yw-fl	RE-Yw4Y(St)Yw-fl	RE-2X(St)Yw-fl
Laying	Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations, for direct burial		
Bending radius	7.5 x cable diameter	10 x cable diameter	7.5 x cable diameter
Reaction to fire			
Flame propagation a) Test on single cable b) Test on bunched cables	UL 13 VW-1 test, IEC 60332-1 UL 1685, IEC 60332-3 part 24 (Cat.C)		
Temperature range during operation during installation	–40 °C up to 90 °C –5 °C up to 50 °C		
Sunlight resistance	UL 1581 Section 1200		
Oil resistance	ICEA S-73-532		
Application	For transmission of analogue and digital signals in instrument and control systems; UL listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B), not allowed for direct connection to low impedance sources, e.g. public mains electricity supply		

ICON Instrumentation Cable according to UL 1277

Common types

600 V

Single & Multi pair and Multi triple, individual and/or overall shield, PVC-jacket

- unarmored

Construction				
Product types		Unarmored types		
Conductor		Plain annealed copper; 7 stranded		
size Conductor design	AWG mm	AWG 18/7 7 x 0.404	AWG 16/7 7 x 0.490	AWG 14/7 7 x 0.620
Insulation materials		Polyvinylchloride PVC heat resistant PVCw or Polyvinylchloride PVC heat resistant PVCw with nylon coating NC or Cross linked polyethylene XLPE		
Cabling element [1]				
without individual shield		Pair, Triple		
with individual shield		PiMF, TiMF		
Individual shield		Aluminum/plastic-tape over stranded tinned copper drain wire, plastic-tape under and above shield		
Wrapping		at least one plastic tape above cable core		
Overall shield		Aluminum/plastic-tape over stranded tinned copper drain wire		
Outer jacket		PVCw		
Color		black or blue for intrinsically safe systems		
Marking		LEONI KERPEN ICON TC SIZE MATERIAL TYPE OF SHIELD UL RATED VOLTAGE TEMPERATURE RATING SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET		

[1] *Color code of cabling elements see general .*

ICON Instrumentation Cable according to UL 1277
Common types

600 V

Single & Multi pair and Single & Multi triple, individual and/or overall shield, PVC-jacket

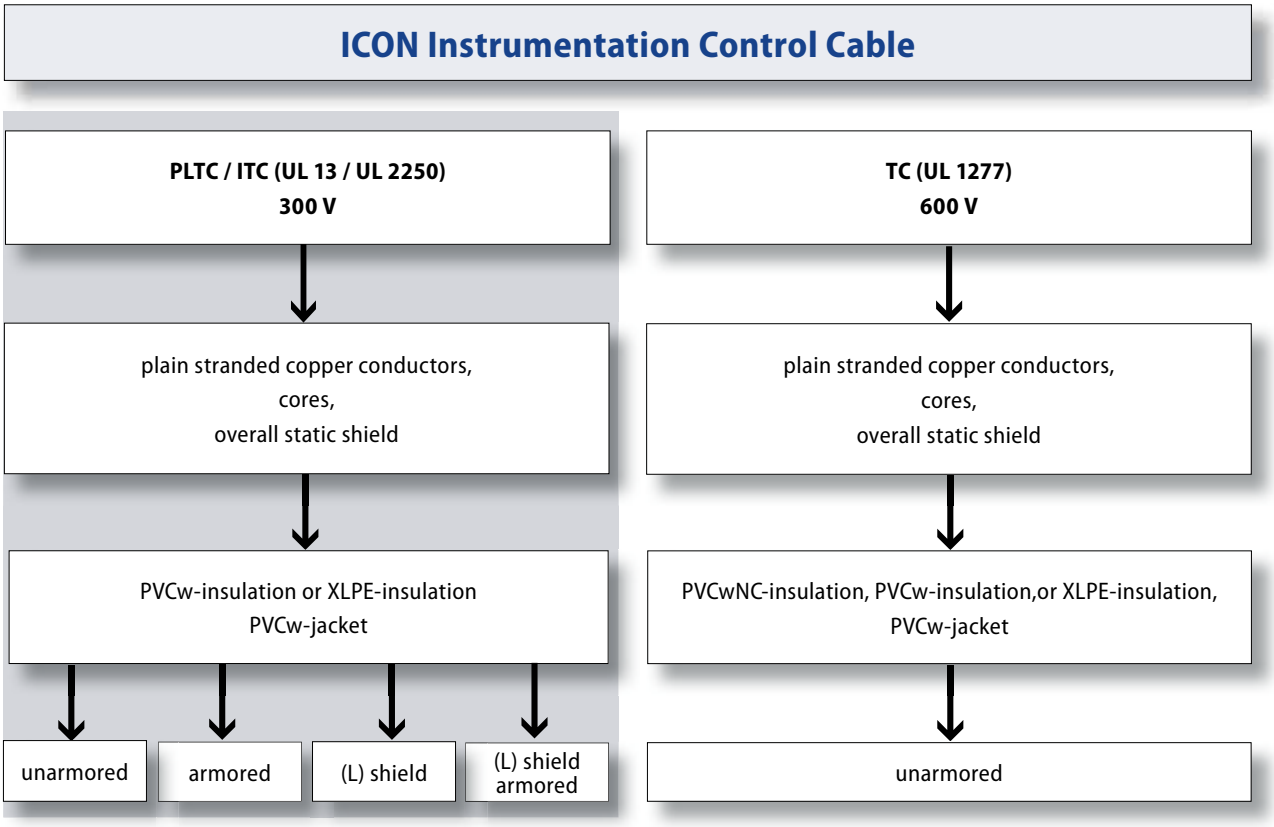
- unarmored

Electrical Data at 20 °C		600 V				
Conductor sizes		nom.	AWG	AWG 18/7	AWG 16/7	AWG 14/7
Conductor resistance		max.	Ω/km	22.8	14.3	9.0
Insulation resistance at 15°C	PVCw-insulation	min.	MΩxkm	175		
	XLPE-insulation	min.	MΩxkm	810		
Inductance		max.	mH/km	0.7		
Mutual capacitance						
PVCw-insulation	Pair, Triple [1) 2)] PiMF, TiMF	max.	nF/km	170 170		
XLPE-insulation	Pair, Triple [1) 2)] PiMF, TiMF	max.	nF/km	120 120		
Test voltage	Core/core (U_{rms}) Core/shield (U_{rms})		V	2000, PVCw insulation / 3000, XLPE insulation 2000, PVCw insulation / 3000, XLPE insulation		
Operating voltage	(U_{rms})	max.	V	600		

[1)] *Values for cables with 1 element correspond to those for PiMF and TiMF resp.*
[2)] *Values for cables with > 1 element -30 %.*

ICON® Instrumentation Control Cable

Common types



ICON Instrumentation Control Cable according to UL 13 / 2250

Common types

Multi core, overall shield, PVC-jacket

- unarmored
- armored

300 V

Technical data			
Type of insulation/jacket		PVCw/PVCw	XLPE/PVCw
Type of cabling elements		Cores	
No. of cabling elements		2, 4, 6, 8, 10, 12, 16, 24, 36	
Conductor sizes		AWG 20/7, AWG 18/7, AWG 16/7, AWG 14/7	
1. Unarmored types		RE-Yw(St)Yw-fl	RE-2X(St)Yw-fl
Laying		Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations, or direct burial[2)]	
Bending radius		7.5 x cable diameter	
2. Armored types		RE-Yw(St)YwSWAYw-fl	RE-2X(St)YwSWAYw-fl
Laying		Recommended for outdoor installation, on racks, trays, in conduits, in dry and wet locations, or direct burial[1)]	
Bending radius		7.5 x cable diameter	
Reaction to fire			
Flame propagation a) Test on single cable b) Test on bunched cables		UL 13 VW-1 test, IEC 60332-1 UL 1685, IEC 60332-3 part 24 (Cat.C)	
Temperature range	during operation during installation	–40 °C up to 105 °C –5 °C up to 50 °C	–40 °C up to 90 °C –5 °C up to 50 °C
Sunlight resistance		UL 1581 Section 1200	
Oil resistance		ICEA S-72-532	
Application		For transmission of analogue and digital signals in instrument and control systems in complianc with NEC article 725.154; allowed for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B), not allowed for direct connection to low impedance sources, e.g. public mains electricity supply	

[1)] *if applicable*

ICON Instrumentation Control Cable according to UL 13 / 2250

Common types

Multi core, overall shield, PVC-jacket

- unarmored
- armored

300 V

Construction					
Product types		Unarmored types		Armored types	
Conductor		Plain annealed copper; 7 stranded according to UL 13			
size Conductor design	AWG mm	AWG 20/7 7 x 0.320	AWG 18/7 7 x 0.404	AWG 16/7 7 x 0.490	AWG 14/7 7 x 0.620
Insulation materials		Cross linked polyethylene XLPE or Polyvinyl chloride heat resistant PVCw			
Cabling element [1]					
without individual shield		Core			
Wrapping		at least one plastic tape above cable core			
Overall shield		Aluminum/plastic-tape over stranded tinned copper drain wire			
Inner jacket		—		PVCw, black	
Armoring				Galvanized steel wire armor; wire diameter depending on cable diameter under armoring, at least 0.9 mm	
Outer jacket		PVCw			
Color		black or blue for intrinsically safe systems			
Marking		LEONI KERPEN ICON PLTC/ITC SIZE MATERIAL TYPE OF SHIELD UL TEMPERATURE RATING SUN RES DIR BUR[2] PRODUCTION LOT CODE LENGTH MARKING IN FEET			

[1] *Color code of cabling elements see general .*
[2] *if applicable*

ICON Instrumentation Control Cable according to UL 13 /2250

Common types

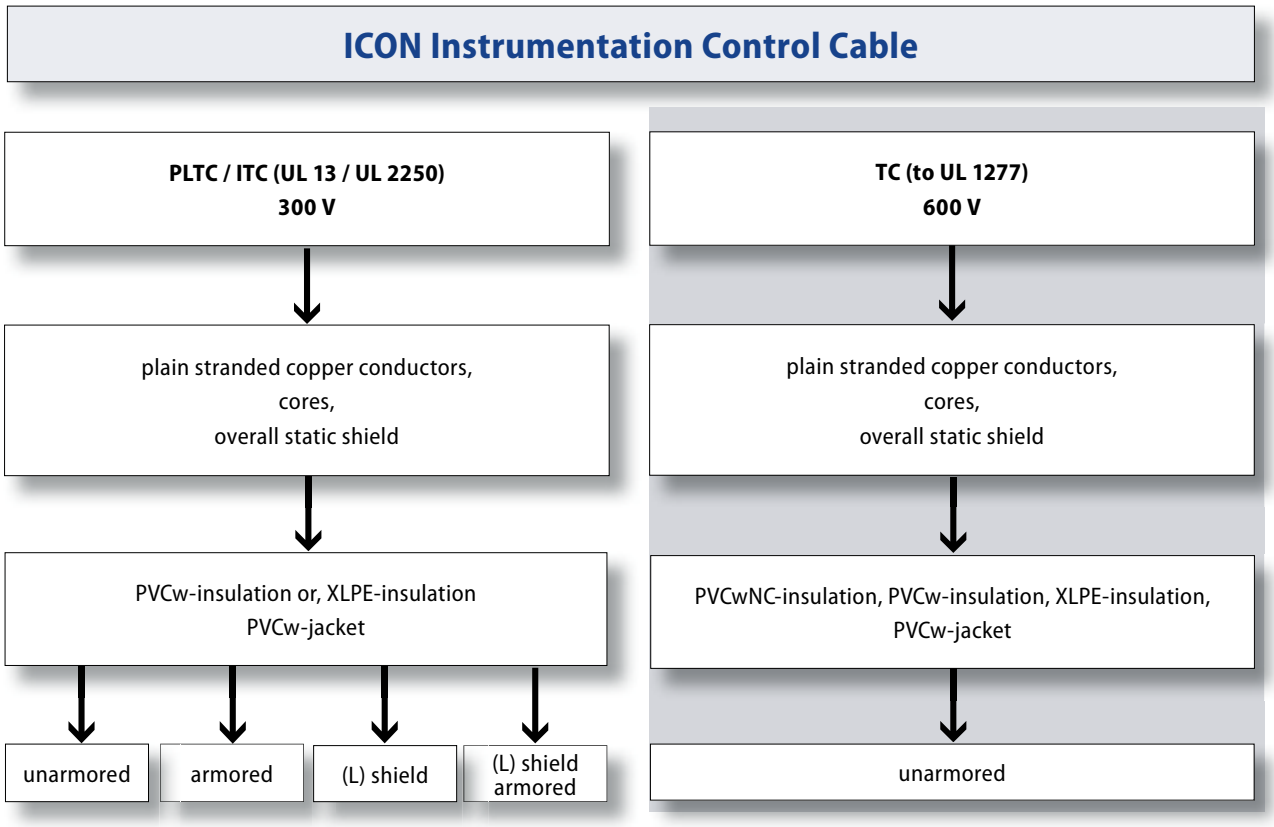
Multi core, overall shield, PVC-jacket

- unarmored
- armored

Electrical Data at 20 °C				300 V			
Conductor sizes		nom.	AWG	AWG 20/7	AWG 18/7	AWG 16/7	AWG 14/7
Conductor resistance		max.	Ω/km	35.8	22.8	14.3	9.0
Insulation resistance at 15.6 °C	PVCw-insulation	min.	MΩxkm	30.5			
	XLPE-insulation	min.	MΩxkm	30.5			
Inductance		max.	mH/km	1			
Mutual capacitance							
PVCw-insulation	CORE	max.	nF/km	200			
XLPE-insulation	CORE	max.	nF/km	125			
Test voltage	Core/core (U_{rms}) Core/shield (U_{rms})		V	1500 1500			
Operating voltage	(U_{rms})	max.	V	300			

ICON® Instrumentation Control Cable to UL 1277

Common types



ICON Instrumentation Control Cable according to UL 1277

Common types

600 V

Multi Core, overall shield, PVC-jacket

- unarmored

Technical data			
Type of insulation/jacket	PVCw/PVCw	PVCwNC/PVCw	XLPE/PVCw
Type of cabling elements	Core		
No. of cabling elements	2, 4, 6, 8, 10, 12, 16, 24, 36		
Conductor sizes	AWG 18/7, AWG 16/7, AWG 14/7		
1. Unarmored types	RE-Yw(St)Yw-fl	RE-Yw4Y(St)Yw-fl	RE-2X(St)Yw-fl
Laying	Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations, for direct burial		
Bending radius	7.5 x cable diameter	10 x cable diameter	7.5 x cable diameter
Reaction to fire			
Flame propagation a) Test on single cable b) Test on bunched cables	UL 13 VW-1 test, IEC 60332-1 UL 1685, IEC 60332-3 part 24 (Cat.C)		
Temperature range during operation during installation	–40 °C up to 90 °C –5 °C up to 50 °C		
Sunlight resistance	UL 1581 Section 1200		
Oil resistance	ICEA S-73-532		
Application	For transmission of analogue and digital signals in instrument and control systems; UL listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B), not allowed for direct connection to low impedance sources, e.g. public mains electricity supply		

ICON Instrumentation Control Cable according to UL 1277

Common types

600 V

Multi core, overall shield, PVC-jacket

- unarmored

Construction			
Product types	Unarmored types		
Conductor	Plain annealed copper; 7 stranded		
size Conductor design mm	AWG 18/7 7 x 0.320	AWG 16/7 7 x 0.404	AWG 14/7 7 x 0.620
Insulation materials	Polyvinylchloride PVC heat resistant PVCw or Polyvinylchloride PVC heat resistant PVCw with nylon jacket NC or Cross linked polyethylene XLPE		
Cabling element [1)]	Core		
Wrapping	at least one plastic tape above cable core		
Overall shield	Aluminum/plastic-tape over stranded tinned copper drain wire		
Outer jacket	PVCw		
Color	black or blue for intrinsically safe systems		
Marking	LEONI KERPEN ICON PLTC/ITC SIZE MATERIAL TYPE OF SHIELD UL RATED VOLTAGE TEMPERATURE RATING SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET		

[1)] *Color code of cabling elements see page 71 .*

ICON Instrumentation Control Cable according to UL 1277

Common types

600 V

Multi core, overall shield, PVC-jacket

- unarmored

Electrical Data at 20 °C			600 V			
Conductor sizes		nom.	mm²	AWG 18/7	AWG 16/7	AWG 14/7
Conductor resistance		max.	Ω/km	35.8	22.8	14.3
Insulation resistance at 15 °C	PVCw-insulation	min.	MΩxkm	175		
	XLPE-insulation	min.	MΩxkm	810		
Inductance		max.	mH/km	1		
Mutual capacitance						
PVCw-insulation	Core	max.	nF/km	187		
XLPE-insulation	Core	max.	nF/km	120		
Test voltage	Core/core (U_{rms}) Core/shield (U_{rms})		V	2000, PVCw insulation / 3000, XLPE insulation 2000, PVCw insulation / 3000, XLPE insulation		
Operating voltage	(U_{rms})	max.	V	600		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single-Pair, PVC-Insulation, PVC Jacket

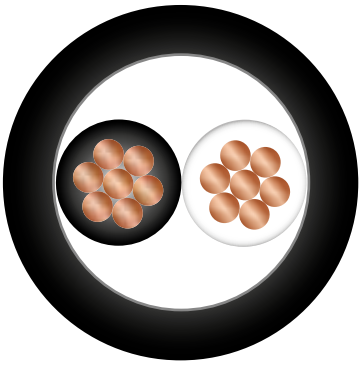
RE-YwYw-fl

Application

Power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG PVC/PVC 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
1	0.51 / 20	1.02 / 40	8.0 / 0.32	88 / 60	79030013
AWG 16 /7					
1	0.38 / 15	0.89 / 35	6.5 / 0.26	66 / 50	79030012
AWG 18 /7					
1	0.38 / 15	0.89 / 35	6.0 / 0.24	55 / 40	79030011
AWG 20 /7					
1	0.30 / 12	0.89 / 35	5.2 / 0.20	40 / 30	79030010

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250
PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single-Triple, PVC-Insulation, PVC Jacket

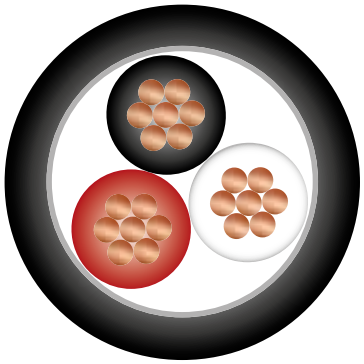
RE-YwYw-fl

Application

Power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG PVC/PVC 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	187 / 57	187 / 57	187 / 57
Inductance	max.	mH/km	1		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7					
1	0.38 / 15	0.89 / 35	6.8 / 0.27	80 / 55	79030016
AWG 18 /7					
1	0.38 / 15	0.89 / 35	6.3 / 0.25	65 / 45	79030015
AWG 20 /7					
1	0.30 / 12	0.89 / 35	5.4 / 0.21	45 / 35	79030014

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, PVC Jacket

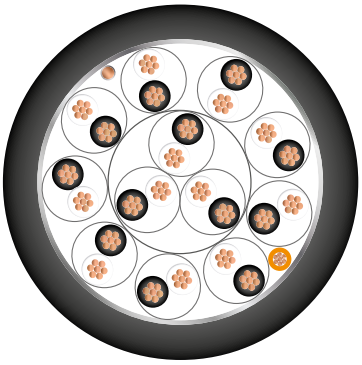
RE-Yw(St)Yw-fl

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/ PVC*) OS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET
	*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 150 / 46	 200 / 61 190 / 58 150 / 46	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250 UL LISTED

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
1	0.51 / 20	1.02 / 40	8.2 / 0.32	109 / 75	79960628
2	0.51 / 20	1.27 / 50	12.6 / 0.50	207 / 140	79960629
4	0.51 / 20	1.27 / 50	14.6 / 0.57	318 / 215	79960630
6	0.51 / 20	1.52 / 60	18.0 / 0.71	492 / 325	79960631
8	0.51 / 20	1.52 / 60	19.1 / 0.75	578 / 390	79960632
10	0.51 / 20	1.52 / 60	21.7 / 0.85	705 / 475	79960633
12	0.51 / 20	1.78 / 70	23.3 / 0.92	851 / 575	79960634
16	0.51 / 20	1.78 / 70	26.4 / 1.04	1095 / 740	79960635
24	0.51 / 20	1.78 / 70	31.4 / 1.24	1548 / 1040	79960636
36	0.51 / 20	2.03 / 80	38.6 / 1.52	2299 / 1545	79960637
AWG 16 /7					
1	0.38 / 15	0.89 / 35	6.7 / 0.26	69 / 55	79960000
2	0.38 / 15	1.27 / 50	10.8 / 0.43	146 / 95	79960001
4	0.38 / 15	1.27 / 50	12.5 / 0.50	217 / 145	79960002
6	0.38 / 15	1.27 / 50	14.8 / 0.58	297 / 195	79960254
8	0.38 / 15	1.52 / 60	16.1 / 0.64	384 / 260	79960003
10	0.38 / 15	1.52 / 60	18.2 / 0.72	460 / 310	79960255
12	0.38 / 15	1.52 / 60	18.8 / 0.74	533 / 355	79960004
16	0.38 / 15	1.52 / 60	21.1 / 0.83	680 / 455	79960005
24	0.38 / 15	1.78 / 70	25.4 / 1.01	1002 / 670	79960006
36	0.38 / 15	1.78 / 70	30.3 / 1.20	1433 / 955	79960007
AWG 18 /7					
1	0.38 / 15	0.89 / 35	6.2 / 0.24	54 / 45	79960008
2	0.38 / 15	1.02 / 40	9.3 / 0.37	105 / 75	79960009
4	0.38 / 15	1.27 / 50	11.4 / 0.45	171 / 115	79960010
6	0.38 / 15	1.27 / 50	13.5 / 0.53	230 / 155	79960252
8	0.38 / 15	1.27 / 50	14.1 / 0.56	280 / 185	79960011
10	0.38 / 15	1.52 / 60	16.5 / 0.65	350 / 240	79960253
12	0.38 / 15	1.52 / 60	17.0 / 0.67	409 / 275	79960012
16	0.38 / 15	1.52 / 60	19.0 / 0.75	518 / 350	79960013
24	0.38 / 15	1.78 / 70	23.1 / 0.91	776 / 505	79960014
36	0.38 / 15	1.78 / 70	28.6 / 1.07	1086 / 720	79960015
AWG 20 /7					
1	0.30 / 12	0.89 / 35	5.3 / 0.21	39 / 35	79960016
2	0.30 / 12	1.02 / 40	8.0 / 0.31	76 / 55	79960017
4	0.30 / 12	1.02 / 40	8.8 / 0.36	109 / 75	79960018
6	0.30 / 12	1.27 / 50	11.3 / 0.44	160 / 110	79960250
8	0.30 / 12	1.27 / 50	11.8 / 0.47	194 / 130	79960019
10	0.30 / 12	1.27 / 50	13.3 / 0.52	225 / 155	79960251
12	0.30 / 12	1.27 / 50	13.7 / 0.54	263 / 175	79960020
16	0.30 / 12	1.52 / 60	15.8 / 0.63	355 / 240	79960021
24	0.30 / 12	1.52 / 60	18.6 / 0.73	488 / 325	79960022
36	0.30 / 12	1.52 / 60	21.8 / 0.86	693 / 460	79960023

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, PVC Jacket

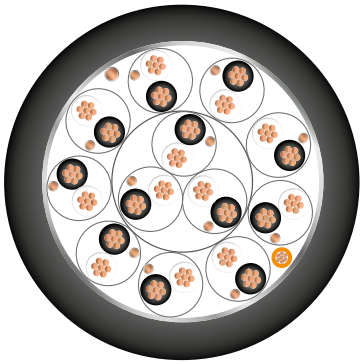
RE-Yw(St)Yw-fl PiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC SPOS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
PiMF	pair in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl PiMF

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
2	0.51 / 20	1.27 / 50	13.9 / 0.55	238 / 160	79960638
4	0.51 / 20	1.52 / 60	16.7 / 0.66	387 / 260	79960639
6	0.51 / 20	1.52 / 60	20.0 / 0.79	552 / 375	79960640
8	0.51 / 20	1.52 / 60	21.3 / 0.84	687 / 465	79960641
10	0.51 / 20	1.78 / 70	24.7 / 0.97	857 / 580	79960642
12	0.51 / 20	1.78 / 70	26.4 / 1.04	987 / 665	79960643
16	0.51 / 20	1.78 / 70	29.7 / 1.17	1271 / 855	79960644
24	0.51 / 20	2.03 / 80	36.0 / 1.42	1871 / 1285	79960645
36	0.51 / 20	2.29 / 90	43.4 / 1.71	2911 / 1960	79960646
AWG 16 /7					
2	0.38 / 15	1.27 / 50	12.1 / 0.48	170 / 115	79960024
4	0.38 / 15	1.27 / 50	14.2 / 0.56	259 / 170	79960025
6	0.38 / 15	1.52 / 60	17.3 / 0.69	388 / 255	79960260
8	0.38 / 15	1.52 / 60	18.4 / 0.72	470 / 310	79960026
10	0.38 / 15	1.52 / 60	20.8 / 0.82	570 / 370	79960261
12	0.38 / 15	1.52 / 60	21.6 / 0.85	641 / 420	79960027
16	0.38 / 15	1.78 / 70	24.8 / 0.98	861 / 565	79960028
24	0.38 / 15	1.78 / 70	29.4 / 1.16	1208 / 800	79960029
36	0.38 / 15	2.03 / 80	35.4 / 1.40	1792 / 1175	79960030
AWG 18 /7					
2	0.38 / 15	1.27 / 50	11.4 / 0.44	144 / 100	79960031
4	0.38 / 15	1.27 / 50	13.1 / 0.52	210 / 145	79960032
6	0.38 / 15	1.52 / 60	16.0 / 0.63	305 / 205	79960258
8	0.38 / 15	1.52 / 60	17.0 / 0.67	381 / 250	79960033
10	0.38 / 15	1.52 / 60	19.1 / 0.75	450 / 305	79960259
12	0.38 / 15	1.52 / 60	19.8 / 0.78	514 / 340	79960034
16	0.38 / 15	1.78 / 70	22.7 / 0.90	687 / 455	79960035
24	0.38 / 15	1.78 / 70	26.9 / 1.06	968 / 640	79960036
36	0.38 / 15	2.03 / 80	32.4 / 1.28	1411 / 935	79960037
AWG 20 /7					
2	0.30 / 12	1.02 / 40	8.9 / 0.36	94 / 65	79960038
4	0.30 / 12	1.27 / 50	11.2 / 0.44	152 / 345	79960039
6	0.30 / 12	1.27 / 50	13.1 / 0.52	209 / 135	79960256
8	0.30 / 12	1.27 / 50	13.7 / 0.54	253 / 165	79960040
10	0.30 / 12	1.52 / 60	16.0 / 0.63	310 / 210	79960257
12	0.30 / 12	1.52 / 60	16.6 / 0.65	357 / 240	79960041
16	0.30 / 12	1.52 / 60	18.5 / 0.73	455 / 300	79960042
24	0.30 / 12	1.52 / 60	21.8 / 0.86	662 / 415	79960043
36	0.30 / 12	1.78 / 70	26.4 / 1.04	936 / 615	79960044

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

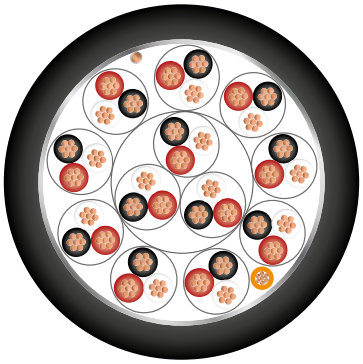
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/ PVC*) OS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 150 / 46	 200 / 61 190 / 58 150 / 46	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
1	0.51 / 20	1.02 / 40	8.6 / 0.35	134 / 90	79960647
2	0.51 / 20	1.27 / 50	14.0 / 0.55	275 / 185	79960648
4	0.51 / 20	1.52 / 60	16.5 / 0.65	454 / 305	79960649
6	0.51 / 20	1.52 / 60	21.2 / 0.84	663 / 450	79960650
8	0.51 / 20	1.78 / 70	23.2 / 0.91	848 / 570	79960651
10	0.51 / 20	1.78 / 70	24.1 / 0.95	1010 / 680	79960652
12	0.51 / 20	1.78 / 70	26.8 / 1.05	1191 / 805	79960653
16	0.51 / 20	1.78 / 70	30.2 / 1.19	1546 / 1040	79960654
24	0.51 / 20	2.03 / 80	36.5 / 1.44	2274 / 1530	79960655
36	0.51 / 20	2.29 / 90	44.0 / 1.73	3349 / 2250	79960656
AWG 16 /7					
1	0.38 / 15	1.02 / 40	7.2 / 0.28	90 / 65	79960045
2	0.38 / 15	1.27 / 50	11.9 / 0.47	180 / 125	79960046
4	0.38 / 15	1.27 / 50	13.7 / 0.54	288 / 195	79960047
6	0.38 / 15	1.52 / 60	17.3 / 0.68	420 / 285	79960266
8	0.38 / 15	1.52 / 60	18.4 / 0.72	525 / 355	79960048
10	0.38 / 15	1.52 / 60	20.6 / 0.81	647 / 430	79960267
12	0.38 / 15	1.52 / 60	21.2 / 0.83	749 / 495	79960049
16	0.38 / 15	1.78 / 70	24.3 / 0.96	995 / 660	79960050
24	0.38 / 15	1.78 / 70	28.9 / 1.14	1400 / 945	79960051
36	0.38 / 15	2.03 / 80	34.9 / 1.37	2060 / 1385	79960052
AWG 18 /7					
1	0.38 / 15	0.89 / 35	6.5 / 0.26	66 / 50	79960053
2	0.38 / 15	1.27 / 50	10.8 / 0.43	170 / 115	79960054
4	0.38 / 15	1.27 / 50	12.4 / 0.49	223 / 150	79960055
6	0.38 / 15	1.27 / 50	15.2 / 0.60	315 / 215	79960264
8	0.38 / 15	1.52 / 60	16.7 / 0.66	413 / 270	79960056
10	0.38 / 15	1.52 / 60	18.6 / 0.74	492 / 330	79960265
12	0.38 / 15	1.52 / 60	19.2 / 0.76	564 / 380	79960057
16	0.38 / 15	1.52 / 60	21.5 / 0.85	722 / 485	79960058
24	0.38 / 15	1.78 / 70	26.1 / 1.03	1055 / 710	79960059
36	0.38 / 15	1.78 / 70	30.8 / 1.22	1518 / 1015	79960060
AWG 20 /7					
1	0.30 / 12	0.89 / 35	5.6 / 0.22	50 / 35	79960061
2	0.30 / 12	1.02 / 40	8.7 / 0.34	95 / 65	79960062
4	0.30 / 12	1.27 / 50	10.5 / 0.41	155 / 105	79960063
6	0.30 / 12	1.27 / 50	12.7 / 0.50	215 / 145	79960262
8	0.30 / 12	1.27 / 50	13.5 / 0.53	260 / 175	79960064
10	0.30 / 12	1.27 / 50	15.0 / 0.59	310 / 210	79960263
12	0.30 / 12	1.52 / 60	15.9 / 0.63	375 / 255	79960065
16	0.30 / 12	1.52 / 60	17.8 / 0.70	475 / 320	79960066
24	0.30 / 12	1.52 / 60	20.9 / 0.82	670 / 455	79960067
36	0.30 / 12	1.78 / 70	25.3 / 1.00	985 / 665	79960068

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, PVC Jacket

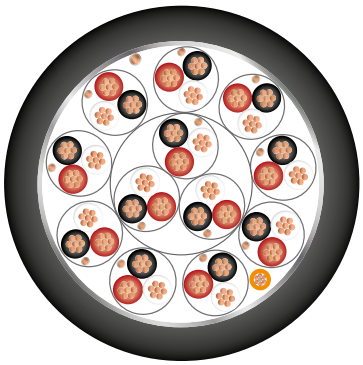
RE-Yw(St)Yw-fl TiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC STOS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
TiMF	triple in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl TiMF

Geometrical data					
No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
2	0.51 / 20	1.52 / 60	16.5 / 0.65	324 / 220	79960657
4	0.51 / 20	1.52 / 60	18.9 / 0.75	513 / 345	79960658
6	0.51 / 20	1.78 / 70	24.0 / 0.94	773 / 520	79960659
8	0.51 / 20	1.78 / 70	25.0 / 0.98	959 / 645	79960660
10	0.51 / 20	1.78 / 70	28.2 / 1.11	1162 / 785	79960661
12	0.51 / 20	1.78 / 70	29.2 / 1.15	1327 / 895	79960662
16	0.51 / 20	2.03 / 80	33.6 / 1.32	1766 / 1190	79960663
24	0.51 / 20	2.03 / 80	40.1 / 1.58	2550 / 1715	79960664
36	0.51 / 20	2.29 / 90	48.7 / 1.96	3756 / 2525	79960665
AWG 16 /7					
2	0.38 / 15	1.27 / 50	13.3 / 0.52	215 / 145	79960069
4	0.38 / 15	1.52 / 60	15.9 / 0.63	350 / 230	79960070
6	0.38 / 15	1.52 / 60	19.6 / 0.77	490 / 330	79960272
8	0.38 / 15	1.52 / 60	20.9 / 0.82	610 / 410	79960071
10	0.38 / 15	1.78 / 70	24.1 / 0.95	791 / 520	79960273
12	0.38 / 15	1.78 / 70	24.7 / 0.97	891 / 585	79960072
16	0.38 / 15	1.78 / 70	27.7 / 1.09	1145 / 755	79960073
24	0.38 / 15	2.03 / 80	33.5 / 1.32	1650 / 1110	79960074
36	0.38 / 15	2.03 / 80	39.8 / 1.57	2365 / 1590	79960075
AWG 18 /7					
2	0.38 / 15	1.27 / 50	12.3 / 0.48	172 / 115	79960076
4	0.38 / 15	1.27 / 50	14.2 / 0.56	260 / 175	79960077
6	0.38 / 15	1.52 / 60	18.0 / 0.71	395 / 270	79960270
8	0.38 / 15	1.52 / 60	19.1 / 0.75	491 / 325	79960078
10	0.38 / 15	1.52 / 60	21.5 / 0.85	585 / 395	79960271
12	0.38 / 15	1.78 / 70	22.7 / 0.89	702 / 465	79960079
16	0.38 / 15	1.78 / 70	25.3 / 1.00	898 / 595	79960080
24	0.38 / 15	1.78 / 70	30.1 / 1.19	1268 / 845	79960081
36	0.38 / 15	2.03 / 80	36.3 / 1.43	1840 / 1240	79960082
AWG 20 /7					
2	0.30 / 12	1.27 / 50	10.4 / 0.41	120 / 85	79960083
4	0.30 / 12	1.27 / 50	12.0 / 0.47	180 / 125	79960084
6	0.30 / 12	1.27 / 50	14.6 / 0.57	250 / 170	79960268
8	0.30 / 12	1.52 / 60	16.1 / 0.63	335 / 230	79960085
10	0.30 / 12	1.52 / 60	17.9 / 0.70	400 / 270	79960269
12	0.30 / 12	1.52 / 60	18.4 / 0.72	450 / 305	79960086
16	0.30 / 12	1.52 / 60	20.6 / 0.81	628 / 385	79960087
24	0.30 / 12	1.78 / 70	25.0 / 0.98	835 / 565	79960088
36	0.30 / 12	1.78 / 70	29.6 / 1.17	1190 / 800	79960089

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl

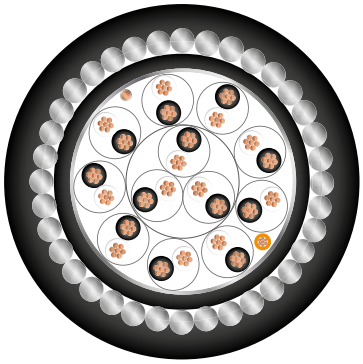
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
For indoor and outdoor installation in cable trays or in raceways. Not recommended for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/ PVC*) OS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
10 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 160 / 49	 200 / 61 190 / 58 160 / 49	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	Dia. over inner jacket 1 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7								
1	0.51 / 20	1.02 / 40	8.1 / 0.32	0.9	1.27 / 50	12.5 / 0.49	319 / 215	79840471
2	0.51 / 20	1.27 / 50	12.6 / 0.50	0.9	1.52 / 60	17.5 / 0.69	540 / 365	79840472
4	0.51 / 20	1.27 / 50	14.6 / 0.58	0.9	1.52 / 60	19.5 / 0.77	700 / 475	79840473
6	0.51 / 20	1.52 / 60	18.0 / 0.71	1.25	1.78 / 70	24.1 / 0.95	1097 / 740	79840474
8	0.51 / 20	1.52 / 60	19.1 / 0.75	1.25	1.78 / 70	25.2 / 0.99	1234 / 830	79840475
10	0.51 / 20	1.52 / 60	21.7 / 0.86	1.25	1.78 / 70	27.8 / 1.09	1440 / 970	79840476
12	0.51 / 20	1.78 / 70	23.3 / 0.92	1.25	1.78 / 70	29.3 / 1.15	1649 / 1100	79840477
16	0.51 / 20	1.78 / 70	26.4 / 1.04	1.6	2.03 / 80	33.6 / 1.32	2213 / 1490	79840478
24	0.51 / 20	1.78 / 70	31.4 / 1.23	1.6	2.03 / 80	38.6 / 1.52	2845 / 1915	79840479
36	0.51 / 20	2.03 / 80	38.6 / 1.52	2	2.29 / 90	47.1 / 1.85	4256 / 2860	79840480
AWG 16 /7								
1	0.38 / 15	0.89 / 35	6.7 / 0.26	0.9	1.27 / 50	11.0 / 0.43	248 / 175	79840000
2	0.38 / 15	1.27 / 50	10.6 / 0.43	0.9	1.27 / 50	15.0 / 0.59	414 / 285	79840001
4	0.38 / 15	1.27 / 50	12.6 / 0.50	0.9	1.52 / 60	17.4 / 0.69	555 / 375	79840002
6	0.38 / 15	1.27 / 50	14.8 / 0.58	0.9	1.52 / 60	19.7 / 0.77	694 / 470	79840254
8	0.38 / 15	1.52 / 60	16.2 / 0.64	1.25	1.52 / 60	21.8 / 0.85	924 / 620	79840003
10	0.38 / 15	1.52 / 60	18.2 / 0.72	1.25	1.78 / 70	24.3 / 0.96	1097 / 740	79840255
12	0.38 / 15	1.52 / 60	18.9 / 0.74	1.25	1.78 / 70	25.0 / 0.98	1222 / 800	79840004
16	0.38 / 15	1.52 / 60	21.2 / 0.83	1.25	1.78 / 70	27.3 / 1.07	1402 / 945	79840005
24	0.38 / 15	1.78 / 70	25.6 / 1.01	1.6	2.03 / 80	32.8 / 1.30	2080 / 1400	79840006
36	0.38 / 15	1.78 / 70	30.4 / 1.20	1.6	2.03 / 80	37.6 / 1.48	2696 / 1815	79840007
AWG 18 /7								
1	0.38 / 15	0.89 / 35	6.1 / 0.24	0.9	1.27 / 50	10.4 / 0.41	235 / 160	79840008
2	0.38 / 15	1.02 / 40	9.4 / 0.37	0.9	1.27 / 50	13.8 / 0.54	343 / 235	79840009
4	0.38 / 15	1.27 / 50	11.3 / 0.45	0.9	1.52 / 60	16.2 / 0.64	474 / 330	79840010
6	0.38 / 15	1.27 / 50	13.4 / 0.53	0.9	1.52 / 60	18.3 / 0.72	597 / 400	79840252
8	0.38 / 15	1.27 / 50	14.2 / 0.56	0.9	1.52 / 60	19.1 / 0.75	654 / 445	79840011
10	0.38 / 15	1.52 / 60	16.5 / 0.65	1.25	1.52 / 60	22.1 / 0.87	905 / 615	79840253
12	0.38 / 15	1.52 / 60	17.1 / 0.67	1.25	1.78 / 70	23.2 / 0.91	1000 / 680	79840012
16	0.38 / 15	1.52 / 60	19.1 / 0.75	1.25	1.78 / 70	25.2 / 0.99	1174 / 790	79840013
24	0.38 / 15	1.78 / 70	23.1 / 0.91	1.25	1.78 / 70	29.1 / 1.15	1542 / 1040	79840014
36	0.38 / 15	1.78 / 70	27.3 / 1.07	1.6	2.03 / 80	34.5 / 1.36	2218 / 1520	79840015
AWG 20 /7								
1	0.30 / 12	0.89 / 35	5.3 / 0.21	0.9	1.02 / 40	9.1 / 0.36	185 / 125	79840016
2	0.30 / 12	1.02 / 40	8.0 / 0.31	0.9	1.27 / 50	12.4 / 0.48	285 / 195	79840017
4	0.30 / 12	1.02 / 40	9.2 / 0.36	0.9	1.27 / 50	13.6 / 0.53	348 / 240	79840018
6	0.30 / 12	1.27 / 50	11.3 / 0.44	0.9	1.52 / 60	16.2 / 0.63	470 / 320	79840250
8	0.30 / 12	1.27 / 50	11.9 / 0.47	0.9	1.52 / 60	16.8 / 0.66	513 / 350	79840019
10	0.30 / 12	1.27 / 50	13.3 / 0.52	0.9	1.52 / 60	18.2 / 0.71	585 / 395	79840251
12	0.30 / 12	1.27 / 50	13.8 / 0.54	0.9	1.52 / 60	18.7 / 0.73	626 / 455	79840020
16	0.30 / 12	1.52 / 60	15.9 / 0.63	1.25	1.78 / 70	22.0 / 0.84	879 / 595	79840021
24	0.30 / 12	1.52 / 60	18.6 / 0.73	1.25	1.78 / 70	24.7 / 0.97	1130 / 760	79840022
36	0.30 / 12	1.52 / 60	21.9 / 0.86	1.25	1.78 / 70	28.0 / 1.10	1439 / 970	79840023

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, Armor, PVC Jacket

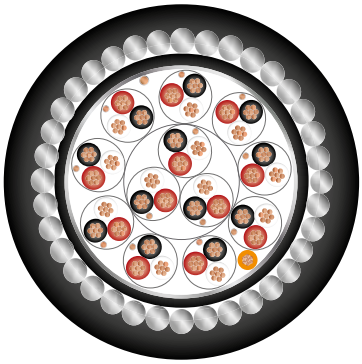
RE-Yw(St)YwSWAYw-fl PiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
For indoor and outdoor installation in cable trays or in raceways. Not recommended for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC SPOS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
10 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
PiMF	pair in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl PiMF

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	Dia. over inner jacket 1 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7								
2	0.51 / 20	1.27 / 50	14.1 / 0.56	0.9	1.52 / 60	19.0 / 0.75	605 / 410	79840124
4	0.51 / 20	1.52 / 60	16.7 / 0.66	1.25	1.78 / 70	22.8 / 0.90	965 / 650	79840482
6	0.51 / 20	1.52 / 60	20.0 / 0.79	1.25	1.78 / 70	26.1 / 1.03	1234 / 830	79840483
8	0.51 / 20	1.52 / 60	21.3 / 0.84	1.25	1.78 / 70	27.4 / 1.08	1417 / 955	79840484
10	0.51 / 20	1.78 / 70	24.7 / 0.97	1.25	1.78 / 70	30.7 / 1.21	1692 / 1140	79840485
12	0.51 / 20	1.78 / 70	26.4 / 1.04	1.6	2.03 / 80	33.6 / 1.32	2106 / 1415	79840486
16	0.51 / 20	1.78 / 70	29.7 / 1.17	1.6	2.03 / 80	36.9 / 1.45	2518 / 1695	79840487
24	0.51 / 20	2.03 / 80	36.0 / 1.42	2	2.29 / 90	44.5 / 1.75	3763 / 2530	79840488
36	0.51 / 20	2.29 / 90	43.4 / 1.71	2	2.54 / 100	52.5 / 2.06	5166 / 3475	79840490
AWG 16 /7								
2	0.38 / 15	1.27 / 50	12.2 / 0.48	0.9	1.52 / 60	17.0 / 0.67	495 / 335	79840024
4	0.38 / 15	1.27 / 50	14.3 / 0.56	0.9	1.52 / 60	19.2 / 0.75	633 / 430	79840025
6	0.38 / 15	1.52 / 60	17.3 / 0.69	1.25	1.78 / 70	23.4 / 0.93	1014 / 665	79840260
8	0.38 / 15	1.52 / 60	18.4 / 0.72	1.25	1.78 / 70	24.5 / 0.96	1097 / 740	79840026
10	0.38 / 15	1.52 / 60	20.8 / 0.82	1.25	1.78 / 70	26.9 / 1.06	1272 / 860	79840261
12	0.38 / 15	1.52 / 60	21.6 / 0.85	1.25	1.78 / 70	27.7 / 1.09	1375 / 930	79840027
16	0.38 / 15	1.78 / 70	24.9 / 0.98	1.25	1.78 / 70	30.9 / 1.22	1692 / 1140	79840028
24	0.38 / 15	1.78 / 70	29.4 / 1.16	1.6	2.03 / 80	36.6 / 1.44	2422 / 1630	79840029
36	0.38 / 15	2.03 / 80	36.5 / 1.40	2	2.29 / 90	45.0 / 1.74	3645 / 2450	79840030
AWG 18 /7								
2	0.38 / 15	1.27 / 50	11.3 / 0.44	0.9	1.52 / 60	16.2 / 0.63	446 / 305	79840031
4	0.38 / 15	1.27 / 50	13.1 / 0.52	0.9	1.52 / 60	18.0 / 0.71	557 / 380	79840032
6	0.38 / 15	1.52 / 60	16.0 / 0.63	1.25	1.52 / 60	21.6 / 0.85	853 / 575	79840258
8	0.38 / 15	1.52 / 60	17.0 / 0.67	1.25	1.78 / 70	23.1 / 0.91	974 / 660	79840033
10	0.38 / 15	1.52 / 60	19.1 / 0.75	1.25	1.78 / 70	25.2 / 0.99	1117 / 755	79840259
12	0.38 / 15	1.52 / 60	19.8 / 0.78	1.25	1.78 / 70	25.9 / 1.02	1194 / 805	79840034
16	0.38 / 15	1.78 / 70	22.8 / 0.90	1.25	1.78 / 70	28.8 / 1.14	1454 / 980	79840035
24	0.38 / 15	1.78 / 70	26.9 / 1.06	1.6	2.03 / 80	34.1 / 1.35	2086 / 1405	79840036
36	0.38 / 15	2.03 / 80	32.4 / 1.28	1.6	2.03 / 80	39.6 / 1.56	2749 / 1855	79840037
AWG 20 /7								
2	0.30 / 12	1.02 / 40	9.2 / 0.36	0.9	1.27 / 50	13.6 / 0.53	332 / 230	79840038
4	0.30 / 12	1.27 / 50	11.2 / 0.44	0.9	1.52 / 60	16.1 / 0.63	455 / 310	79840039
6	0.30 / 12	1.27 / 50	13.1 / 0.52	0.9	1.52 / 60	18.0 / 0.70	556 / 380	79840256
8	0.30 / 12	1.27 / 50	13.8 / 0.54	0.9	1.52 / 60	18.7 / 0.73	615 / 415	79840040
10	0.30 / 12	1.52 / 60	16.0 / 0.63	1.25	1.52 / 60	21.6 / 0.85	854 / 575	79840257
12	0.30 / 12	1.52 / 60	16.6 / 0.65	1.25	1.78 / 70	22.7 / 0.89	934 / 630	79840041
16	0.30 / 12	1.52 / 60	18.6 / 0.73	1.25	1.78 / 70	24.7 / 0.97	1093 / 685	79840042
24	0.30 / 12	1.52 / 60	21.8 / 0.86	1.25	1.78 / 70	27.9 / 1.10	1383 / 935	79840043
36	0.30 / 12	1.78 / 70	26.8 / 1.04	1.6	2.03 / 80	34.0 / 1.33	2047 / 1380	79840044

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl

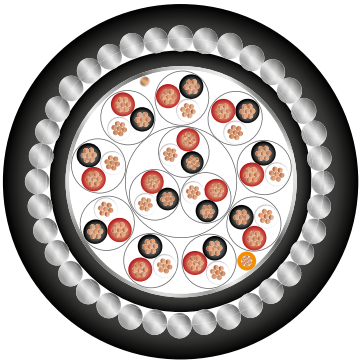
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
For indoor and outdoor installation in cable trays or in raceways. Not recommended for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/ PVC*) OS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	10 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 160 / 49	 200 / 61 190 / 58 160 / 49	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	Dia. over inner jacket 1 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7								
1	0.51 / 20	1.02 / 40	8.8 / 0.35	0.9	1.27 / 50	13.2 / 0.52	356 / 240	79840491
2	0.51 / 20	1.27 / 50	14.0 / 0.55	0.9	1.52 / 60	18.9 / 0.74	643 / 435	79840492
4	0.51 / 20	1.52 / 60	16.5 / 0.65	1.25	1.52 / 60	22.1 / 0.87	1000 / 675	79840493
6	0.51 / 20	1.52 / 60	21.2 / 0.84	1.25	1.78 / 70	27.3 / 1.07	1383 / 930	79840494
8	0.51 / 20	1.78 / 70	23.2 / 0.91	1.25	1.78 / 70	29.2 / 1.15	1632 / 1100	79840495
10	0.51 / 20	1.78 / 70	24.1 / 0.95	1.25	1.78 / 70	30.1 / 1.18	1820 / 1225	79840496
12	0.51 / 20	1.78 / 70	26.8 / 1.05	1.6	2.03 / 80	34.0 / 1.34	2330 / 1570	79840497
16	0.51 / 20	1.78 / 70	30.2 / 1.19	1.6	2.03 / 80	37.4 / 1.47	2814 / 1895	79840498
24	0.51 / 20	2.03 / 80	36.5 / 1.44	2	2.29 / 90	45.0 / 1.77	4131 / 2780	79840499
36	0.51 / 20	2.29 / 90	44.0 / 1.73	2	2.54 / 100	53.1 / 2.09	7265 / 4885	79840500
AWG 16 /7								
1	0.38 / 15	1.02 / 40	7.2 / 0.28	0.9	1.27 / 50	11.6 / 0.45	289 / 195	79840045
2	0.38 / 15	1.27 / 50	12.0 / 0.47	0.9	1.52 / 60	16.9 / 0.66	505 / 340	79840046
4	0.38 / 15	1.27 / 50	13.6 / 0.54	0.9	1.52 / 60	18.5 / 0.73	647 / 440	79840047
6	0.38 / 15	1.52 / 60	17.2 / 0.68	1.25	1.78 / 70	23.3 / 0.92	1043 / 705	79840266
8	0.38 / 15	1.52 / 60	18.4 / 0.72	1.25	1.78 / 70	24.5 / 0.96	1165 / 785	79840048
10	0.38 / 15	1.52 / 60	20.6 / 0.81	1.25	1.78 / 70	26.7 / 1.06	1354 / 915	79840267
12	0.38 / 15	1.52 / 60	21.1 / 0.83	1.25	1.78 / 70	27.2 / 1.07	1466 / 990	79840049
16	0.38 / 15	1.78 / 70	24.4 / 0.96	1.25	1.78 / 70	30.4 / 1.20	1823 / 1225	79840050
24	0.38 / 15	1.78 / 70	28.8 / 1.14	1.6	2.03 / 80	36.0 / 1.43	2626 / 1770	79840051
36	0.38 / 15	2.03 / 80	34.8 / 1.37	1.6	2.29 / 90	42.5 / 1.68	3569 / 2430	79840052
AWG 18 /7								
1	0.38 / 15	0.89 / 35	6.5 / 0.26	0.9	1.27 / 50	10.9 / 0.43	248 / 170	79840053
2	0.38 / 15	1.27 / 50	10.9 / 0.43	0.9	1.27 / 50	15.3 / 0.59	425 / 285	79840054
4	0.38 / 15	1.27 / 50	12.4 / 0.49	0.9	1.52 / 60	17.3 / 0.68	554 / 380	79840055
6	0.38 / 15	1.27 / 50	15.1 / 0.60	1.25	1.52 / 60	20.7 / 0.81	820 / 565	79840264
8	0.38 / 15	1.52 / 60	16.6 / 0.66	1.25	1.78 / 70	22.7 / 0.90	984 / 670	79840056
10	0.38 / 15	1.52 / 60	18.7 / 0.74	1.25	1.78 / 70	24.8 / 0.98	1140 / 770	79840265
12	0.38 / 15	1.52 / 60	19.2 / 0.76	1.25	1.78 / 70	25.3 / 1.00	1225 / 825	79840057
16	0.38 / 15	1.52 / 60	21.4 / 0.85	1.25	1.78 / 70	27.5 / 1.09	1453 / 1005	79840058
24	0.38 / 15	1.78 / 70	26.0 / 1.03	1.6	2.03 / 80	33.2 / 1.31	2156 / 1455	79840059
36	0.38 / 15	1.78 / 70	30.8 / 1.22	1.6	2.03 / 80	38.0 / 1.50	2800 / 1925	79840060
AWG 20 /7								
1	0.30 / 12	0.89 / 35	5.6 / 0.22	0.9	1.02 / 40	9.4 / 0.37	194 / 135	79840061
2	0.30 / 12	1.02 / 40	8.8 / 0.34	0.9	1.27 / 50	13.2 / 0.51	319 / 215	79840062
4	0.30 / 12	1.27 / 50	10.4 / 0.41	0.9	1.27 / 50	14.8 / 0.58	421 / 290	79840063
6	0.30 / 12	1.27 / 50	12.6 / 0.50	0.9	1.52 / 60	17.5 / 0.69	560 / 380	79840262
8	0.30 / 12	1.27 / 50	13.4 / 0.53	0.9	1.52 / 60	18.3 / 0.72	616 / 415	79840064
10	0.30 / 12	1.27 / 50	14.9 / 0.59	0.9	1.52 / 60	19.8 / 0.78	706 / 475	79840263
12	0.30 / 12	1.52 / 60	15.9 / 0.63	1.25	1.52 / 60	21.4 / 0.84	910 / 615	79840065
16	0.30 / 12	1.52 / 60	17.7 / 0.70	1.25	1.78 / 70	23.8 / 0.94	1099 / 740	79840066
24	0.30 / 12	1.52 / 60	20.8 / 0.82	1.25	1.78 / 70	26.9 / 1.06	1388 / 945	79840067
36	0.30 / 12	1.78 / 70	25.2 / 1.00	1.6	2.03 / 80	32.4 / 1.28	2070 / 1420	79840068

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, Armor, PVC Jacket

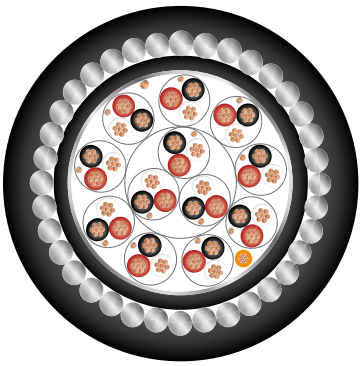
RE-Yw(St)YwSWAYw-fl TiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
For indoor and outdoor installation in cable trays or in raceways. Not recommended for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC STOS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	10 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
TiMF	triple in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Cable

UL 13 / UL 2250 UL LISTED

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl TiMF

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	Dia. over inner jacket 1 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7								
2	0.51 / 20	1.52 / 60	16.5 / 0.65	1.25	1.52 / 60	22.1 / 0.87	871 / 590	79840501
4	0.51 / 20	1.52 / 60	18.9 / 0.75	1.25	1.78 / 70	25.0 / 0.98	1166 / 785	79840502
6	0.51 / 20	1.78 / 70	24.0 / 0.94	1.25	1.78 / 70	30.0 / 1.18	1583 / 1065	79840503
8	0.51 / 20	1.78 / 70	25.0 / 0.98	1.25	1.78 / 70	31.0 / 1.22	1806 / 1215	79840504
10	0.51 / 20	1.78 / 70	28.2 / 1.11	1.6	2.03 / 80	35.4 / 1.39	2346 / 1580	79840505
12	0.51 / 20	1.78 / 70	29.2 / 1.15	1.6	2.03 / 80	36.4 / 1.43	2554 / 1720	79840506
16	0.51 / 20	2.03 / 80	33.6 / 1.32	1.6	2.03 / 80	40.8 / 1.60	3149 / 2120	79840507
24	0.51 / 20	2.03 / 80	40.1 / 1.58	2	2.29 / 90	48.6 / 1.91	4575 / 3075	79840508
36	0.51 / 20	2.29 / 90	48.7 / 1.92	2.5	2.54 / 100	58.8 / 2.31	6775 / 4555	79840509
AWG 16 /7								
2	0.38 / 15	1.27 / 50	12.9 / 0.52	0.9	1.52 / 60	17.8 / 0.71	550 / 380	79840069
4	0.38 / 15	1.52 / 60	15.9 / 0.63	1.25	1.52 / 60	21.5 / 0.84	875 / 590	79840070
6	0.38 / 15	1.52 / 60	19.6 / 0.77	1.25	1.78 / 70	25.7 / 1.01	1175 / 790	79840272
8	0.38 / 15	1.52 / 60	20.8 / 0.82	1.25	1.78 / 70	26.9 / 1.06	1370 / 930	79840071
10	0.38 / 15	1.78 / 70	23.5 / 0.95	1.25	2.03 / 80	30.0 / 1.19	1638 / 1105	79840273
12	0.38 / 15	1.78 / 70	24.2 / 0.97	1.25	1.78 / 70	30.2 / 1.21	1691 / 1165	79840072
16	0.38 / 15	1.78 / 70	27.7 / 1.09	1.6	2.03 / 80	34.9 / 1.38	2309 / 1590	79840073
24	0.38 / 15	2.03 / 80	33.4 / 1.32	1.6	2.03 / 80	40.6 / 1.61	3066 / 2065	79840074
36	0.38 / 15	2.03 / 80	39.7 / 1.57	2	2.29 / 90	48.2 / 1.91	4426 / 3005	79840075
AWG 18 /7								
2	0.38 / 15	1.27 / 50	11.8 / 0.48	0.9	1.52 / 60	16.7 / 0.67	486 / 340	79840076
4	0.38 / 15	1.27 / 50	14.1 / 0.56	0.9	1.52 / 60	19.0 / 0.75	634 / 430	79840077
6	0.38 / 15	1.52 / 60	17.9 / 0.71	1.25	1.78 / 70	24.0 / 0.95	1021 / 690	79840270
8	0.38 / 15	1.52 / 60	19.0 / 0.75	1.25	1.78 / 70	25.1 / 0.99	1147 / 775	79840078
10	0.38 / 15	1.52 / 60	22.9 / 0.85	1.25	1.78 / 70	29.0 / 1.09	1328 / 895	79840271
12	0.38 / 15	1.78 / 70	22.2 / 0.89	1.25	1.78 / 70	28.2 / 1.13	1472 / 995	79840079
16	0.38 / 15	1.78 / 70	25.3 / 1.00	1.6	2.03 / 80	32.5 / 1.29	1949 / 1325	79840080
24	0.38 / 15	1.78 / 70	30.0 / 1.19	1.6	2.03 / 80	37.2 / 1.47	2515 / 1690	79840081
36	0.38 / 15	2.03 / 80	36.2 / 1.43	2	2.29 / 90	44.7 / 1.77	3724 / 2500	79840082
AWG 20 /7								
2	0.30 / 12	1.27 / 50	10.1 / 0.41	0.9	1.27 / 50	14.5 / 0.58	381 / 265	79840083
4	0.30 / 12	1.27 / 50	11.9 / 0.47	0.9	1.52 / 60	16.8 / 0.66	505 / 345	79840084
6	0.30 / 12	1.27 / 50	14.5 / 0.57	0.9	1.52 / 60	19.4 / 0.76	648 / 435	79840268
8	0.30 / 12	1.52 / 60	16.0 / 0.63	1.25	1.52 / 60	21.6 / 0.85	877 / 595	79840085
10	0.30 / 12	1.52 / 60	17.9 / 0.70	1.25	1.78 / 70	24.0 / 0.94	1025 / 690	79840269
12	0.30 / 12	1.52 / 60	18.3 / 0.72	1.25	1.78 / 70	24.4 / 0.96	1091 / 740	79840086
16	0.30 / 12	1.52 / 60	19.5 / 0.81	1.25	1.78 / 70	25.6 / 1.05	1330 / 870	79840087
24	0.30 / 12	1.78 / 70	24.9 / 0.98	1.25	1.78 / 70	30.9 / 1.22	1703 / 1150	79840088
36	0.30 / 12	1.78 / 70	29.6 / 1.17	1.6	2.03 / 80	36.9 / 1.45	2490 / 1675	79840089

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, AL-Laminated Jacket, PVC Jacket

RE-Yw(St)Yw(L)Yw-fl

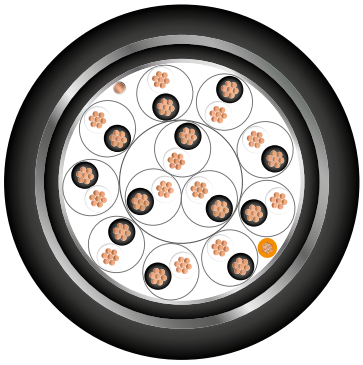
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC*) OS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
15 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 160 / 49	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, AL-Laminated Jacket, PVC Jacket

RE-Yw(St)Yw(L)Yw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7						
1	0.38 / 15	0.89 / 35	0.89 / 35	9.6 / 0.35	136 / 95	79970000
2	0.38 / 15	1.27 / 50	1.27 / 50	14.4 / 0.57	258 / 170	79970001
4	0.38 / 15	1.27 / 50	1.27 / 50	16.2 / 0.65	344 / 230	79970002
6	0.38 / 15	1.27 / 50	1.27 / 50	18.6 / 0.73	430 / 290	79970254
8	0.38 / 15	1.52 / 60	1.52 / 60	20.2 / 0.81	568 / 370	79970003
10	0.38 / 15	1.52 / 60	1.52 / 60	22.5 / 0.89	655 / 445	79970255
12	0.38 / 15	1.52 / 60	1.52 / 60	23.2 / 0.91	725 / 490	79970004
16	0.38 / 15	1.52 / 60	1.52 / 60	25.5 / 1.00	895 / 605	79970005
24	0.38 / 15	1.78 / 70	1.78 / 70	30.5 / 1.20	1290 / 870	79970006
36	0.38 / 15	1.78 / 70	1.78 / 70	35.3 / 1.39	1760 / 1185	79970007
AWG 18 /7						
1	0.38 / 15	0.89 / 35	0.89 / 35	9.0 / 0.35	120 / 85	79970008
2	0.38 / 15	1.02 / 40	1.02 / 40	12.7 / 0.50	180 / 125	79970009
4	0.38 / 15	1.27 / 50	1.27 / 50	15.3 / 0.60	280 / 190	79970010
6	0.38 / 15	1.27 / 50	1.27 / 50	17.3 / 0.68	360 / 245	79970252
8	0.38 / 15	1.27 / 50	1.27 / 50	18.0 / 0.71	415 / 280	79970011
10	0.38 / 15	1.52 / 60	1.52 / 60	20.8 / 0.82	530 / 360	79970253
12	0.38 / 15	1.52 / 60	1.52 / 60	21.4 / 0.84	585 / 395	79970012
16	0.38 / 15	1.52 / 60	1.52 / 60	23.4 / 0.92	715 / 485	79970013
24	0.38 / 15	1.78 / 70	1.78 / 70	28.0 / 1.10	1020 / 690	79970014
36	0.38 / 15	1.78 / 70	1.78 / 70	32.2 / 1.27	1380 / 930	79970015
AWG 20 /7						
1	0.30 / 12	0.89 / 35	0.89 / 35	8.0 / 0.31	95 / 65	79970016
2	0.30 / 12	1.02 / 40	1.02 / 40	11.3 / 0.44	145 / 100	79970017
4	0.30 / 12	1.02 / 40	1.02 / 40	12.5 / 0.49	190 / 130	79970018
6	0.30 / 12	1.27 / 50	1.27 / 50	15.1 / 0.59	275 / 185	79970250
8	0.30 / 12	1.27 / 50	1.27 / 50	15.7 / 0.62	310 / 210	79970019
10	0.30 / 12	1.27 / 50	1.27 / 50	17.1 / 0.67	355 / 240	79970251
12	0.30 / 12	1.27 / 50	1.27 / 50	17.6 / 0.69	395 / 270	79970020
16	0.30 / 12	1.52 / 60	1.52 / 60	20.2 / 0.80	520 / 350	79970021
24	0.30 / 12	1.52 / 60	1.52 / 60	22.9 / 0.90	675 / 455	79970022
36	0.30 / 12	1.52 / 60	1.52 / 60	26.2 / 1.03	915 / 615	79970023

RT = Radial Thickness

ICON Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, PVC Jacket

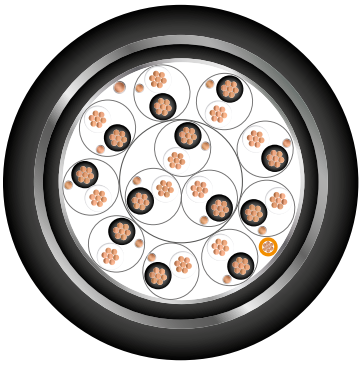
RE-Yw(St)Yw(L)Yw-fl PiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC SPOS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
15 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
PiMF	pair in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, PVC Jacket

RE-Yw(St)Yw(L)Yw-fl PiMF

Geometrical data						
No. of elements	**RT of insulation** nom. (mm / mils)	**RT of inner jacket 1** nom. (mm / mils)	**RT outer jacket** nom. (mm / mils)	**Outer dia.** approx. (mm / in)	**Weight** approx. (kg/km / lbs/1000ft)	**Part number** Color black
AWG 16 /7						
2	0.38 / 15	1.27 / 50	1.27 / 50	16.0 / 0.63	285 / 195	79970024
4	0.38 / 15	1.27 / 50	1.27 / 50	18.1 / 0.71	390 / 265	79970025
6	0.38 / 15	1.52 / 60	1.52 / 60	21.7 / 0.85	560 / 380	79970260
8	0.38 / 15	1.52 / 60	1.52 / 60	22.7 / 0.89	650 / 440	79970026
10	0.38 / 15	1.52 / 60	1.52 / 60	25.1 / 0.99	770 / 520	79970261
12	0.38 / 15	1.52 / 60	1.52 / 60	25.9 / 1.02	855 / 575	79970027
16	0.38 / 15	1.78 / 70	1.78 / 70	29.8 / 1.17	1130 / 760	79970028
24	0.38 / 15	1.78 / 70	1.78 / 70	34.3 / 1.35	1525 / 1025	79970029
36	0.38 / 15	2.03 / 80	2.03 / 80	40.9 / 1.61	2190 / 1475	79970030
AWG 18 /7						
2	0.38 / 15	1.27 / 50	1.27 / 50	15.1 / 0.59	250 / 170	79970031
4	0.38 / 15	1.27 / 50	1.27 / 50	17.0 / 0.67	330 / 225	79970032
6	0.38 / 15	1.52 / 60	1.52 / 60	20.3 / 0.80	480 / 325	79970258
8	0.38 / 15	1.52 / 60	1.52 / 60	21.3 / 0.84	555 / 375	79970033
10	0.38 / 15	1.52 / 60	1.52 / 60	23.4 / 0.92	650 / 440	79970259
12	0.38 / 15	1.52 / 60	1.52 / 60	24.1 / 0.95	710 / 480	79970034
16	0.38 / 15	1.78 / 70	1.78 / 70	27.7 / 1.09	940 / 635	79970035
24	0.38 / 15	1.78 / 70	1.78 / 70	31.8 / 1.25	1260 / 850	79970036
36	0.38 / 15	2.03 / 80	2.03 / 80	37.8 / 1.49	1800 / 1210	79970037
AWG 20 /7						
2	0.30 / 12	1.02 / 40	1.02 / 40	12.5 / 0.49	192 / 120	79970038
4	0.30 / 12	1.27 / 50	1.27 / 50	15.0 / 0.59	260 / 175	79970039
6	0.30 / 12	1.27 / 50	1.27 / 50	16.9 / 0.67	330 / 225	79970256
8	0.30 / 12	1.27 / 50	1.27 / 50	17.6 / 0.69	375 / 255	79970040
10	0.30 / 12	1.52 / 60	1.52 / 60	20.3 / 0.80	485 / 330	79970257
12	0.30 / 12	1.52 / 60	1.52 / 60	20.9 / 0.82	525 / 355	79970041
16	0.30 / 12	1.52 / 60	1.52 / 60	22.9 / 0.90	640 / 430	79970042
24	0.30 / 12	1.52 / 60	1.52 / 60	26.1 / 1.03	845 / 570	79970043
36	0.30 / 12	1.78 / 70	1.78 / 70	31.4 / 1.24	1220 / 820	79970044

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, AL-Laminated Jacket, PVC Jacket

RE-Yw(St)Yw(L)Yw-fl

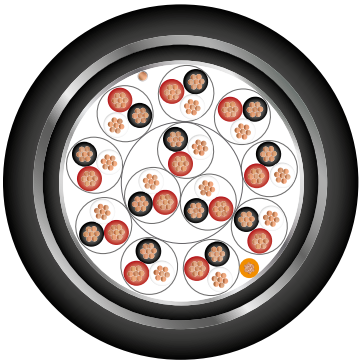
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC*) OS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
15 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 160 / 49	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, AL-Laminated Jacket, PVC Jacket

RE-Yw(St)Yw(L)Yw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7						
1	0.38 / 15	1.02 / 40	1.02 / 40	10.5 / 0.41	165 / 115	79970045
2	0.38 / 15	1.27 / 50	1.27 / 50	15.7 / 0.62	300 / 205	79970046
4	0.38 / 15	1.27 / 50	1.27 / 50	17.5 / 0.69	415 / 280	79970047
6	0.38 / 15	1.52 / 60	1.52 / 60	21.6 / 0.85	610 / 410	79970266
8	0.38 / 15	1.52 / 60	1.52 / 60	22.7 / 0.89	720 / 485	79970048
10	0.38 / 15	1.52 / 60	1.52 / 60	25.0 / 0.98	860 / 580	79970267
12	0.38 / 15	1.52 / 60	1.52 / 60	25.5 / 1.00	960 / 645	79970049
16	0.38 / 15	1.78 / 70	1.78 / 70	29.4 / 1.16	1270 / 855	79970050
24	0.38 / 15	1.78 / 70	1.78 / 70	33.8 / 1.33	1735 / 1170	79970051
36	0.38 / 15	2.03 / 80	2.03 / 80	40.3 / 1.59	2505 / 1685	79970052
AWG 18 /7						
1	0.38 / 15	0.89 / 35	0.89 / 35	9.6 / 0.38	130 / 90	79970053
2	0.38 / 15	1.27 / 50	1.27 / 50	14.6 / 0.57	255 / 175	79970054
4	0.38 / 15	1.27 / 50	1.27 / 50	16.3 / 0.64	340 / 230	79970055
6	0.38 / 15	1.27 / 50	1.27 / 50	19.0 / 0.75	460 / 310	79970264
8	0.38 / 15	1.52 / 60	1.52 / 60	21.0 / 0.83	580 / 390	79970056
10	0.38 / 15	1.52 / 60	1.52 / 60	23.0 / 0.91	685 / 465	79970265
12	0.38 / 15	1.52 / 60	1.52 / 60	23.5 / 0.93	760 / 515	79970057
16	0.38 / 15	1.52 / 60	1.52 / 60	25.8 / 1.02	945 / 635	79970058
24	0.38 / 15	1.78 / 70	1.78 / 70	31.0 / 1.22	1360 / 915	79970059
36	0.38 / 15	1.78 / 70	1.78 / 70	35.8 / 1.41	1865 / 1255	79970060
AWG 20 /7						
1	0.30 / 12	0.89 / 35	0.89 / 35	8.7 / 0.34	100 / 70	79970061
2	0.30 / 12	1.02 / 40	1.02 / 40	12.0 / 0.47	170 / 115	79970062
4	0.30 / 12	1.27 / 50	1.27 / 50	14.3 / 0.56	260 / 175	79970063
6	0.30 / 12	1.27 / 50	1.27 / 50	16.5 / 0.65	340 / 230	79970262
8	0.30 / 12	1.27 / 50	1.27 / 50	17.3 / 0.68	390 / 265	79970064
10	0.30 / 12	1.27 / 50	1.27 / 50	18.8 / 0.74	455 / 310	79970263
12	0.30 / 12	1.52 / 60	1.52 / 60	20.2 / 0.80	550 / 370	79970065
16	0.30 / 12	1.52 / 60	1.52 / 60	22.1 / 0.87	665 / 450	79970066
24	0.30 / 12	1.52 / 60	1.52 / 60	25.2 / 0.99	890 / 600	79970067
36	0.30 / 12	1.78 / 70	1.78 / 70	30.2 / 1.19	1280 / 860	79970068

RT = Radial Thickness

ICON Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, PVC Jacket

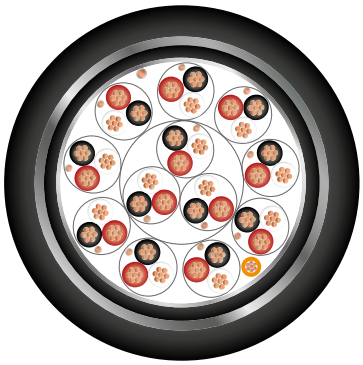
RE-Yw(St)Yw(L)Yw-fl TiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC STOS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
15 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
TiMF	triple in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, PVC Jacket

RE-Yw(St)Yw(L)Yw-fl TiMF

Geometrical data						
No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7						
2	0.38 / 15	1.27 / 50	1.27 / 50	17.1 / 0.67	335 / 230	79970069
4	0.38 / 15	1.52 / 60	1.52 / 60	20.2 / 0.80	515 / 350	79970070
6	0.38 / 15	1.52 / 60	1.52 / 60	23.9 / 0.94	700 / 475	79970272
8	0.38 / 15	1.52 / 60	1.52 / 60	25.2 / 0.99	830 / 560	79970071
10	0.38 / 15	1.78 / 70	1.78 / 70	29.0 / 1.14	1055 / 710	79970273
12	0.38 / 15	1.78 / 70	1.78 / 70	29.6 / 1.17	1160 / 780	79970072
16	0.38 / 15	1.78 / 70	1.78 / 70	32.7 / 1.29	1445 / 975	79970073
24	0.38 / 15	2.03 / 80	2.03 / 80	38.9 / 1.53	2075 / 1395	79970074
36	0.38 / 15	2.03 / 80	2.03 / 80	45.2 / 1.78	2860 / 1925	79970075
AWG 18 /7						
2	0.38 / 15	1.27 / 50	1.27 / 50	16.1 / 0.63	290 / 195	79970076
4	0.38 / 15	1.27 / 50	1.27 / 50	18.0 / 0.71	395 / 270	79970077
6	0.38 / 15	1.52 / 60	1.52 / 60	22.3 / 0.88	585 / 395	79970270
8	0.38 / 15	1.52 / 60	1.52 / 60	23.4 / 0.92	685 / 465	79970078
10	0.38 / 15	1.52 / 60	1.52 / 60	25.8 / 1.02	810 / 545	79970271
12	0.38 / 15	1.78 / 70	1.78 / 70	27.6 / 1.09	960 / 645	79970079
16	0.38 / 15	1.78 / 70	1.78 / 70	30.3 / 1.19	1180 / 795	79970080
24	0.38 / 15	1.78 / 70	1.78 / 70	35.0 / 1.38	1600 / 1075	79970081
36	0.38 / 15	2.03 / 80	2.03 / 80	41.7 / 1.64	2300 / 1550	79970082
AWG 20 /7						
2	0.30 / 12	1.27 / 50	1.27 / 50	14.2 / 0.56	230 / 155	79970083
4	0.30 / 12	1.27 / 50	1.27 / 50	15.8 / 0.62	300 / 205	79970084
6	0.30 / 12	1.27 / 50	1.27 / 50	18.4 / 0.72	390 / 265	79970268
8	0.30 / 12	1.52 / 60	1.52 / 60	20.4 / 0.80	510 / 345	79970085
10	0.30 / 12	1.52 / 60	1.52 / 60	22.2 / 0.87	590 / 400	79970269
12	0.30 / 12	1.52 / 60	1.52 / 60	22.7 / 0.89	645 / 435	79970086
16	0.30 / 12	1.52 / 60	1.52 / 60	24.9 / 0.98	790 / 535	79970087
24	0.30 / 12	1.78 / 70	1.78 / 70	29.9 / 1.18	1130 / 760	79970088
36	0.30 / 12	1.78 / 70	1.78 / 70	34.5 / 1.36	1530 / 1030	79970089

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

RE-Yw(St)Yw(L)YwSWAYw-fl

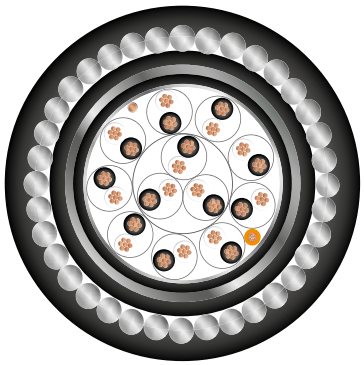
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Inner jacket 2	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC*) OS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	15 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 160 / 49	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

RE-Yw(St)Yw(L)YwSWAYw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 2 nom. (mm / mils)	Dia. over inner jacket 2 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7								
1	0.38 / 15	0.89 / 35	9.4 / 0.37	0.9	1.27 / 50	13.6 / 0.54	370 / 250	79980000
2	0.38 / 15	1.27 / 50	14.0 / 0.55	0.9	1.52 / 60	18.7 / 0.74	620 / 420	79980001
4	0.38 / 15	1.27 / 50	16.0 / 0.63	1.25	1.52 / 60	21.4 / 0.84	875 / 590	79980002
6	0.38 / 15	1.27 / 50	18.2 / 0.72	1.25	1.78 / 70	24.2 / 0.95	1070 / 720	79980254
8	0.38 / 15	1.52 / 60	20.1 / 0.79	1.25	1.78 / 70	26.5 / 1.03	1255 / 845	79980003
10	0.38 / 15	1.52 / 60	22.1 / 0.87	1.25	1.78 / 70	28.1 / 1.10	1415 / 950	79980255
12	0.38 / 15	1.52 / 60	22.8 / 0.90	1.25	1.78 / 70	28.8 / 1.13	1534 / 1020	79980004
16	0.38 / 15	1.52 / 60	25.1 / 0.99	1.6	1.78 / 70	31.1 / 1.22	1915 / 1290	79980005
24	0.38 / 15	1.78 / 70	29.9 / 1.18	1.6	2.03 / 80	37.2 / 1.46	2525 / 1695	79980006
36	0.38 / 15	1.78 / 70	34.7 / 1.37	1.6	2.29 / 90	42.5 / 1.67	3250 / 2185	79980007
AWG 18 /7								
1	0.38 / 15	0.89 / 35	8.9 / 0.35	0.9	1.27 / 50	13.1 / 0.52	345 / 235	79980008
2	0.38 / 15	1.02 / 40	12.5 / 0.49	0.9	1.52 / 60	17.2 / 0.68	530 / 355	79980009
4	0.38 / 15	1.27 / 50	14.9 / 0.59	0.9	1.52 / 60	19.6 / 0.77	675 / 455	79980010
6	0.38 / 15	1.27 / 50	16.8 / 0.66	1.25	1.78 / 70	22.8 / 0.90	950 / 640	79980252
8	0.38 / 15	1.27 / 50	17.6 / 0.69	1.25	1.78 / 70	23.6 / 0.93	1040 / 700	79980011
10	0.38 / 15	1.52 / 60	20.5 / 0.81	1.25	1.78 / 70	26.5 / 1.04	1250 / 840	79980253
12	0.38 / 15	1.52 / 60	20.7 / 0.81	1.25	1.78 / 70	26.7 / 1.05	1305 / 880	79980012
16	0.38 / 15	1.52 / 60	22.8 / 0.90	1.25	1.78 / 70	28.8 / 1.13	1505 / 1010	79980013
24	0.38 / 15	1.52 / 60	26.1 / 1.03	1.6	2.03 / 80	33.3 / 1.31	2145 / 1445	79980014
36	0.38 / 15	1.78 / 70	31.6 / 1.24	1.6	2.03 / 80	38.9 / 1.53	2775 / 1865	79980015
AWG 20 /7								
1	0.30 / 12	0.89 / 35	8.0 / 0.31	0.9	1.27 / 50	12.2 / 0.48	305 / 205	79980016
2	0.30 / 12	1.02 / 40	10.7 / 0.42	0.9	1.27 / 50	14.9 / 0.59	425 / 290	79980017
4	0.30 / 12	1.02 / 40	11.8 / 0.46	0.9	1.52 / 60	16.5 / 0.65	505 / 340	79980018
6	0.30 / 12	1.27 / 50	14.4 / 0.57	0.9	1.52 / 60	19.1 / 0.75	660 / 445	79980250
8	0.30 / 12	1.27 / 50	15.0 / 0.59	0.9	1.52 / 60	19.7 / 0.78	700 / 470	79980019
10	0.30 / 12	1.27 / 50	16.4 / 0.64	1.25	1.52 / 60	21.8 / 0.86	905 / 610	79980251
12	0.30 / 12	1.27 / 50	17.2 / 0.68	1.25	1.78 / 70	23.2 / 0.91	1000 / 670	79980020
16	0.30 / 12	1.27 / 50	18.7 / 0.74	1.25	1.78 / 70	24.7 / 0.97	1130 / 760	79980021
24	0.30 / 12	1.52 / 60	22.5 / 0.89	1.25	1.78 / 70	28.5 / 1.12	1455 / 975	79980022
36	0.30 / 12	1.52 / 60	25.8 / 1.01	1.6	2.03 / 80	33.0 / 1.30	2005 / 1350	79980023

RT = Radial Thickness

ICON Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

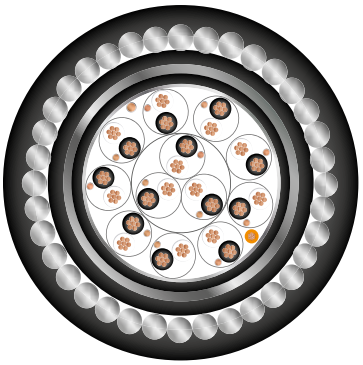
RE-Yw(St)Yw(L)YwSWAYw-fl PiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Inner jacket 2	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC SPOS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +105°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
15 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
PiMF	pair in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250 LISTED

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

RE-Yw(St)Yw(L)YwSWAYw-fl PiMF

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 2 nom. (mm / mils)	Dia. over inner jacket 2 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7								
2	0.38 / 15	1.27 / 50	16.1 / 0.63	1.25	1.52 / 60	21.5 / 0.85	835 / 560	79980024
4	0.38 / 15	1.27 / 50	17.7 / 0.70	1.25	1.78 / 70	23.7 / 0.93	1010 / 680	79980025
6	0.38 / 15	1.52 / 60	21.3 / 0.84	1.25	1.78 / 70	27.3 / 1.07	1310 / 880	79980260
8	0.38 / 15	1.52 / 60	22.3 / 0.88	1.25	1.78 / 70	28.3 / 1.11	1430 / 960	79980026
10	0.38 / 15	1.52 / 60	24.7 / 0.97	1.25	1.78 / 70	30.7 / 1.21	1625 / 1090	79980261
12	0.38 / 15	1.52 / 60	25.5 / 1.00	1.6	2.03 / 80	32.7 / 1.29	1975 / 1330	79980027
16	0.38 / 15	1.78 / 70	29.2 / 1.15	1.6	2.03 / 80	36.5 / 1.44	2420 / 1630	79980028
24	0.38 / 15	1.78 / 70	33.7 / 1.33	1.6	2.29 / 90	41.5 / 1.63	3030 / 2035	79980029
36	0.38 / 15	2.03 / 80	40.3 / 1.59	2	2.29 / 90	48.9 / 1.92	4110 / 2765	79980030
AWG 18 /7								
2	0.38 / 15	1.27 / 50	14.9 / 0.59	1.25	1.52 / 60	19.6 / 0.77	650 / 440	79980031
4	0.38 / 15	1.27 / 50	16.6 / 0.65	1.25	1.52 / 60	22.0 / 0.87	890 / 600	79980032
6	0.38 / 15	1.52 / 60	19.9 / 0.78	1.25	1.78 / 70	25.9 / 1.02	1175 / 790	79980258
8	0.38 / 15	1.52 / 60	20.9 / 0.82	1.25	1.78 / 70	26.9 / 1.06	1290 / 870	79980033
10	0.38 / 15	1.52 / 60	23.0 / 0.90	1.25	1.78 / 70	29.6 / 1.17	1470 / 990	79980259
12	0.38 / 15	1.52 / 60	23.7 / 0.93	1.25	1.78 / 70	29.7 / 1.17	1535 / 1030	79980034
16	0.38 / 15	1.78 / 70	27.1 / 1.07	1.6	2.03 / 80	34.4 / 1.35	2110 / 1420	79980035
24	0.38 / 15	1.78 / 70	31.2 / 1.23	1.6	2.03 / 80	38.5 / 1.51	2400 / 1615	79980036
36	0.38 / 15	2.03 / 80	37.2 / 1.47	2	2.29 / 90	45.8 / 1.80	3770 / 2535	79980037
AWG 20 /7								
2	0.30 / 12	1.02 / 40	12.4 / 0.49	0.9	1.52 / 60	17.1 / 0.67	515 / 350	79980038
4	0.30 / 12	1.27 / 50	16.6 / 0.65	1.25	1.52 / 60	22.0 / 0.87	845 / 565	79980039
6	0.30 / 12	1.27 / 50	16.7 / 0.66	1.25	1.78 / 70	22.7 / 0.89	920 / 620	79980256
8	0.30 / 12	1.27 / 50	17.5 / 0.69	1.25	1.78 / 70	23.5 / 0.92	995 / 670	79980040
10	0.30 / 12	1.52 / 60	20.3 / 0.80	1.25	1.78 / 70	26.3 / 1.03	1195 / 805	79980257
12	0.30 / 12	1.52 / 60	20.8 / 0.82	1.25	1.78 / 70	26.7 / 1.05	1264 / 845	79980041
16	0.30 / 12	1.52 / 60	22.8 / 0.90	1.25	1.78 / 70	28.8 / 1.13	1435 / 965	79980042
24	0.30 / 12	1.52 / 60	26.2 / 1.03	1.6	2.03 / 80	33.4 / 1.31	1975 / 1330	79980043
36	0.30 / 12	1.78 / 70	31.4 / 1.24	1.6	2.03 / 80	38.7 / 1.52	2565 / 1725	79980044

RT = Radial Thickness

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

RE-Yw(St)Yw(L)YwSWAYw-fl

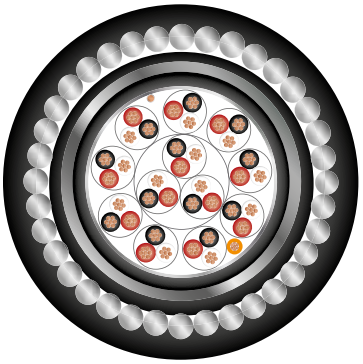
Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Inner jacket 2	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC*) OS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) single element design without com wire



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	15 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 200 / 61 190 / 58 160 / 49	 200 / 61 180 / 55 150 / 46	 200 / 61 180 / 55 150 / 46
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250 UL LISTED

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

RE-Yw(St)Yw(L)YwSWAYw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 2 nom. (mm / mils)	Dia. over inner jacket 2 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7								
1	0.38 / 15	1.02 / 40	10.2 / 0.40	0.9	1.27 / 50	10.2 / 0.40	420 / 285	79980045
2	0.38 / 15	1.27 / 50	15.3 / 0.60	1.25	1.52 / 60	15.3 / 0.60	815 / 550	79980046
4	0.38 / 15	1.27 / 50	17.1 / 0.67	1.25	1.78 / 70	17.1 / 0.67	1015 / 680	79980047
6	0.38 / 15	1.52 / 60	21.2 / 0.83	1.25	1.78 / 70	21.2 / 0.83	1340 / 905	79980266
8	0.38 / 15	1.52 / 60	22.3 / 0.88	1.25	1.78 / 70	22.3 / 0.88	1490 / 1005	79980048
10	0.38 / 15	1.52 / 60	24.6 / 0.97	1.25	1.78 / 70	24.6 / 0.97	1705 / 1150	79980267
12	0.38 / 15	1.52 / 60	25.2 / 0.99	1.6	2.03 / 80	25.2 / 0.99	2050 / 1380	79980049
16	0.38 / 15	1.78 / 70	28.8 / 1.13	1.6	2.03 / 80	28.8 / 1.13	2520 / 1695	79980050
24	0.38 / 15	1.78 / 70	33.2 / 1.31	1.6	2.03 / 80	33.2 / 1.31	3150 / 2115	79980051
36	0.38 / 15	2.03 / 80	39.7 / 1.56	2	2.29 / 90	39.7 / 1.56	4595 / 3085	79980052
AWG 18 /7								
1	0.38 / 15	0.89 / 35	9.2 / 0.36	0.9	1.27 / 50	9.2 / 0.36	365 / 245	79980053
2	0.38 / 15	1.27 / 50	14.4 / 0.57	0.9	1.52 / 60	14.4 / 0.57	635 / 430	79980054
4	0.38 / 15	1.27 / 50	15.9 / 0.63	1.25	1.52 / 60	15.9 / 0.63	870 / 585	79980055
6	0.38 / 15	1.52 / 60	19.6 / 0.77	1.25	1.78 / 70	19.6 / 0.77	1180 / 795	79980264
8	0.38 / 15	1.52 / 60	20.6 / 0.81	1.25	1.78 / 70	20.6 / 0.81	1300 / 875	79980056
10	0.38 / 15	1.52 / 60	22.6 / 0.89	1.25	1.78 / 70	22.6 / 0.89	1465 / 985	79980265
12	0.38 / 15	1.52 / 60	23.1 / 0.91	1.25	1.78 / 70	23.1 / 0.91	1555 / 1045	79980057
16	0.38 / 15	1.52 / 60	25.4 / 1.00	1.6	2.03 / 80	25.4 / 1.00	2050 / 1380	79980058
24	0.38 / 15	1.78 / 70	30.4 / 1.20	1.6	2.03 / 80	30.4 / 1.20	2660 / 1790	79980059
36	0.38 / 15	1.78 / 70	35.2 / 1.39	2	2.29 / 90	35.2 / 1.39	3705 / 2490	79980060
AWG 20 /7								
1	0.30 / 12	0.89 / 35	8.3 / 0.33	0.9	1.27 / 50	8.3 / 0.33	320 / 215	79980061
2	0.30 / 12	1.02 / 40	11.8 / 0.46	0.9	1.52 / 60	11.8 / 0.46	490 / 330	79980062
4	0.30 / 12	1.27 / 50	13.9 / 0.55	0.9	1.52 / 60	13.9 / 0.55	630 / 425	79980063
6	0.30 / 12	1.27 / 50	16.1 / 0.63	1.25	1.52 / 60	16.1 / 0.63	875 / 590	79980262
8	0.30 / 12	1.27 / 50	16.9 / 0.66	1.25	1.78 / 70	16.9 / 0.66	980 / 660	79980064
10	0.30 / 12	1.27 / 50	18.4 / 0.72	1.25	1.78 / 70	18.4 / 0.72	1090 / 735	79980263
12	0.30 / 12	1.27 / 50	18.8 / 0.74	1.25	1.78 / 70	18.8 / 0.74	1155 / 775	79980065
16	0.30 / 12	1.52 / 60	21.7 / 0.85	1.25	1.78 / 70	21.7 / 0.85	1415 / 950	79980066
24	0.30 / 12	1.52 / 60	24.8 / 0.98	1.25	2.03 / 80	24.8 / 0.98	1740 / 1170	79980067
36	0.30 / 12	1.78 / 70	29.6 / 1.17	1.6	2.03 / 80	29.6 / 1.17	2560 / 1720	79980068

RT = Radial Thickness

ICON Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

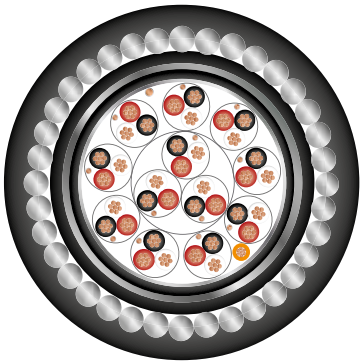
RE-Yw(St)Yw(L)YwSWAYw-fl TiMF

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C), black
Metallic jacket	aluminum tape, longitudinally overlapped and seamed
Inner jacket 2	heat resistant polyvinyl chloride PVC (105 °C), black
Armor	galvanized round steel wires
Communication element	stranded plain annealed copper wire, size AWG 22, PVC insulated, colored orange
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG + 1C 22 AWG PVC/PVC STOS (UL) 105 °C SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	15 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
(L)	aluminum tape
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
TiMF	triple in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)		
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	0.75		
L/R ratio max.	max.	µH/Ω	40	25	
Test voltage U_{rms} (core : core)		V	1500		
Test voltage U_{rms} (core : shield)		V	1500		
Operating voltage		V	300		

ICON® Instrumentation Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, AL-Laminated Jacket, Armor, PVC Jacket

RE-Yw(St)Yw(L)YwSWAYw-fl TiMF

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 2 nom. (mm / mils)	Dia. over inner jacket 2 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 16 /7								
2	0.38 / 15	1.27 / 50	16.6 / 0.65	1.25	1.78 / 70	22.6 / 0.89	915 / 615	79980069
4	0.38 / 15	1.27 / 50	18.4 / 0.72	1.25	1.78 / 70	24.4 / 0.96	1100 / 740	79980070
6	0.38 / 15	1.52 / 60	23.6 / 0.93	1.25	1.78 / 70	29.6 / 1.16	1515 / 1020	79980272
8	0.38 / 15	1.52 / 60	24.6 / 0.97	1.6	2.03 / 80	30.6 / 1.20	1844 / 1125	79980071
10	0.38 / 15	1.78 / 70	28.4 / 1.12	1.6	2.03 / 80	35.7 / 1.40	2290 / 1540	79980273
12	0.38 / 15	1.78 / 70	29.0 / 1.14	1.6	2.03 / 80	36.3 / 1.43	2420 / 1625	79980072
16	0.38 / 15	1.78 / 70	32.1 / 1.26	1.6	2.03 / 80	39.4 / 1.55	2815 / 1890	79980073
24	0.38 / 15	2.03 / 80	38.3 / 1.51	2	2.29 / 90	46.9 / 1.85	4055 / 2725	79980074
36	0.38 / 15	2.03 / 80	45.2 / 1.78	2.5	2.54 / 100	55.3 / 2.18	5745 / 3860	79980075
AWG 18 /7								
2	0.38 / 15	1.27 / 50	16.0 / 0.63	1.25	1.52 / 60	21.4 / 0.84	830 / 560	79980076
4	0.38 / 15	1.27 / 50	17.7 / 0.70	1.25	1.78 / 70	23.7 / 0.93	1020 / 685	79980077
6	0.38 / 15	1.52 / 60	22.0 / 0.87	1.25	1.78 / 70	28.0 / 1.10	1355 / 910	79980270
8	0.38 / 15	1.52 / 60	23.1 / 0.91	1.25	1.78 / 70	29.1 / 1.14	1480 / 995	79980078
10	0.38 / 15	1.52 / 60	25.5 / 1.00	1.6	2.03 / 80	32.7 / 1.29	1965 / 1320	79980271
12	0.38 / 15	1.52 / 60	26.1 / 1.03	1.6	2.03 / 80	33.3 / 1.31	2035 / 1370	79980079
16	0.38 / 15	1.78 / 70	29.8 / 1.17	1.6	2.03 / 80	25.4 / 1.46	2465 / 1655	79980080
24	0.38 / 15	1.78 / 70	34.5 / 1.36	1.6	2.29 / 90	42.3 / 1.66	3120 / 2095	79980081
36	0.38 / 15	2.03 / 80	41.2 / 1.62	2	2.29 / 90	49.8 / 1.96	4265 / 2870	79980082
AWG 20 /7								
2	0.30 / 12	1.27 / 50	14.1 / 0.55	0.9	1.52 / 60	18.8 / 0.74	610 / 410	79980083
4	0.30 / 12	1.27 / 50	15.5 / 0.61	1.25	1.52 / 60	21.1 / 0.83	830 / 560	79980084
6	0.30 / 12	1.27 / 50	18.1 / 0.71	1.25	1.78 / 70	24.4 / 0.96	1040 / 700	79980268
8	0.30 / 12	1.52 / 60	20.1 / 0.79	1.25	1.78 / 70	26.1 / 1.03	1210 / 815	79980085
10	0.30 / 12	1.52 / 60	22.0 / 0.87	1.25	1.78 / 70	28.0 / 1.10	1370 / 920	79980269
12	0.30 / 12	1.52 / 60	22.4 / 0.88	1.25	1.78 / 70	28.4 / 1.12	1425 / 960	79980086
16	0.30 / 12	1.52 / 60	24.7 / 0.97	1.25	1.78 / 70	30.7 / 1.21	1650 / 1110	79980087
24	0.30 / 12	1.78 / 70	29.4 / 1.16	1.6	2.03 / 80	36.7 / 1.44	2400 / 1615	79980088
36	0.30 / 12	1.78 / 70	34.0 / 1.34	1.6	2.29 / 90	41.8 / 1.64	3040 / 2045	79980089

RT = Radial Thickness

ICON® Instrumentation Cable

UL 1277

TC

90 °C / 600 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

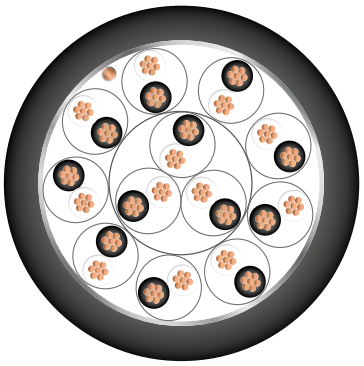
Application

UL-listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18
Insulation	heat resistant polyvinyl chloride PVC (90 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Outer jacket	heat resistant polyvinyl chloride PVC (90 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON TC nE mAWG OS UL THHW*) 600V 90 °C (194 °F) SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) 90 °C DRY / 75 °C WET (AWG 16, 18)



Technical data

Flame propagation	
- Test on single cable	UL 1581, sec. 1080 (VW-1 test)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Sunlight resistance	UL 1581 section 1200

Temperature range	
	-40°C up to +90°C (during operation)
	-5°C up to +50°C (during installation)
Min. bending radius - repeated bending	
	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93
Insulation resistance	min.	MΩ x km / MΩ x 1000ft		175 / 570 (at 15 °C)	
Mutual capacitance	nom.	nF/km / nF/1000ft			
single element:			170 / 52	170 / 52	170 / 52
2 to 4 elements:			155 / 48	155 / 48	155 / 48
above 4 elements:			125 / 39	125 / 39	125 / 39
Inductance	max.	mH/km		0.7	
L/R ratio max.	max.	µH/Ω	60	40	25
Test voltage U_{rms} (core : core)		V		2000	
Test voltage U_{rms} (core : shield)		V		2000	
Operating voltage		V		600	

ICON® Instrumentation Cable

UL 1277
TC
90 °C / 600 V

Flame Retardant, Sunlight Resistant

Single & Multi-Pair, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

Geometrical data					
No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
1	0.76 / 30	1.14 / 45	9.4 / 0.37	118 / 80	7996C320
2	0.76 / 30	1.14 / 45	14.8 / 0.58	255 / 165	7996C321
4	0.76 / 30	1.52 / 60	17.2 / 0.68	368 / 245	7996C322
6	0.76 / 30	1.52 / 60	20.5 / 0.81	525 / 350	7996C323
8	0.76 / 30	1.52 / 60	23.0 / 0.91	698 / 460	7996C324
10	0.76 / 30	2.03 / 80	26.0 / 1.02	847 / 575	79030067
12	0.76 / 30	2.03 / 80	27.2 / 1.07	978 / 665	7996C325
16	0.76 / 30	2.03 / 80	30.8 / 1.21	1261 / 835	7996C326
24	0.76 / 30	2.03 / 80	36.7 / 1.44	1775 / 1180	7996C328
36	0.76 / 30	2.79 / 110	46.0 / 1.81	2749 / 1850	7996C418
AWG 16 /7					
1	0.76 / 30	1.14 / 45	8.6 / 0.34	95 / 65	7996C310
2	0.76 / 30	1.14 / 45	12.8 / 0.50	181 / 120	7996C311
4	0.76 / 30	1.52 / 60	15.6 / 0.61	284 / 190	7996C312
6	0.76 / 30	1.52 / 60	18.5 / 0.73	401 / 270	7996C313
8	0.76 / 30	1.52 / 60	19.7 / 0.78	480 / 320	7996C314
10	0.76 / 30	2.03 / 80	23.5 / 0.93	643 / 440	7996C425
12	0.76 / 30	2.03 / 80	24.6 / 0.97	734 / 485	7996C315
16	0.76 / 30	2.03 / 80	27.7 / 1.09	965 / 620	7996C316
24	0.76 / 30	2.03 / 80	33.0 / 1.30	1307 / 865	7996C318
36	0.76 / 30	2.03 / 80	39.9 / 1.57	1877 / 1270	7996C426
AWG 18 /7					
1	0.76 / 30	1.14 / 45	8.1 / 0.32	82 / 60	7996C300
2	0.76 / 30	1.14 / 45	11.9 / 0.47	151 / 105	7996C301
4	0.76 / 30	1.52 / 60	14.5 / 0.57	236 / 165	7996C302
6	0.76 / 30	1.52 / 60	17.2 / 0.68	332 / 220	7996C303
8	0.76 / 30	1.52 / 60	18.3 / 0.72	390 / 265	7996C304
10	0.76 / 30	2.03 / 80	21.9 / 0.86	529 / 360	7996C433
12	0.76 / 30	2.03 / 80	22.8 / 0.90	599 / 395	7996C305
16	0.76 / 30	2.03 / 80	25.7 / 1.01	760 / 515	7996C306
24	0.76 / 30	2.03 / 80	30.5 / 1.20	1050 / 695	7996C308
36	0.76 / 30	2.03 / 80	36.8 / 1.45	1494 / 1015	7996C434

RT = Radial Thickness

ICON Instrumentation Cable

UL 1277

TC

90 °C / 600 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl PiMF

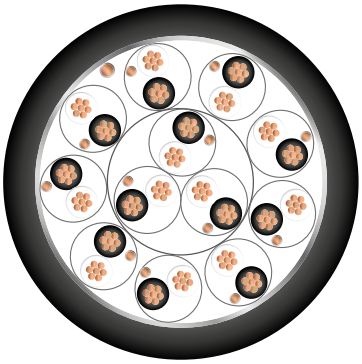
Application

UL-listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18
Insulation	heat resistant polyvinyl chloride PVC (90 °C)
Color code	black, white, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Outer jacket	heat resistant polyvinyl chloride PVC (90 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON TC nE mAWG SPOS UL THHW*) 600V 90 °C (194 °F) SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) 90 °C DRY / 75 °C WET (AWG 16, 18)



Technical data

Flame propagation	
- Test on single cable	UL 1581, sec. 1080 (VW-1 test)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +90°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
7.5 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
PiMF	pair in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	175 / 570 (at 15 °C)		
Mutual capacitance	nom.	nF/km / nF/1000ft	170 / 52	170 / 52	170 / 52
Inductance	max.	mH/km	0.7		
L/R ratio max.	max.	µH/Ω	60	40	25
Test voltage U_{rms} (core : core)		V	2000		
Test voltage U_{rms} (core : shield)		V	2000		
Operating voltage		V	600		

ICON® Instrumentation Cable

UL 1277
TC
90 °C / 600 V

Flame Retardant, Sunlight Resistant

Multi-Pair, PVC-Insulation, Individual & Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl PiMF

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
2	0.76 / 30	1.52 / 60	16.3 / 0.64	295 / 195	7996C350
4	0.76 / 30	1.52 / 60	19.0 / 0.75	450 / 295	7996C351
6	0.76 / 30	2.03 / 80	23.9 / 0.94	708 / 445	7996C352
8	0.76 / 30	2.03 / 80	25.5 / 1.00	852 / 565	7996C353
10	0.76 / 30	2.03 / 80	28.9 / 1.15	1031 / 705	7996C419
12	0.76 / 30	2.03 / 80	30.3 / 1.19	1167 / 755	7996C354
16	0.76 / 30	2.03 / 80	34.3 / 1.35	1506 / 975	7996C355
24	0.76 / 30	2.03 / 80	41.0 / 1.61	2159 / 1400	7996C357
36	0.76 / 30	2.79 / 110	51.4 / 2.05	3294 / 2235	7996C420
AWG 16 /7					
2	0.76 / 30	1.52 / 60	14.8 / 0.58	234 / 160	7996C340
4	0.76 / 30	1.52 / 60	17.2 / 0.68	332 / 215	7996C341
6	0.76 / 30	1.52 / 60	20.5 / 0.81	466 / 305	7996C342
8	0.76 / 30	2.03 / 80	23.0 / 0.91	651 / 415	7996C343
10	0.76 / 30	2.03 / 80	26.0 / 1.02	771 / 525	7996C427
12	0.76 / 30	2.03 / 80	27.2 / 1.07	860 / 575	7996C344
16	0.76 / 30	2.03 / 80	30.8 / 1.21	1104 / 720	7996C345
24	0.76 / 30	2.03 / 80	36.7 / 1.44	1562 / 1025	7996C347
36	0.76 / 30	2.79 / 110	46.0 / 1.81	2396 / 1620	7996C428
AWG 18 /7					
2	0.76 / 30	1.52 / 60	13.9 / 0.55	202 / 135	7996C330
4	0.76 / 30	1.52 / 60	16.1 / 0.63	281 / 185	7996C331
6	0.76 / 30	1.52 / 60	19.2 / 0.76	396 / 260	7996C332
8	0.76 / 30	1.52 / 60	20.5 / 0.81	485 / 320	7996C333
10	0.76 / 30	2.03 / 80	24.4 / 0.96	650 / 445	7996C436
12	0.76 / 30	2.03 / 80	25.5 / 1.00	724 / 475	7996C334
16	0.76 / 30	2.03 / 80	28.7 / 1.13	923 / 600	7996C335
24	0.76 / 30	2.03 / 80	34.2 / 1.35	1294 / 845	7996C337
36	0.76 / 30	2.03 / 80	41.4 / 1.63	1832 / 1235	7996C437

RT = Radial Thickness

ICON® Instrumentation Cable

UL 1277

TC

90 °C / 600 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, PVC Jacket

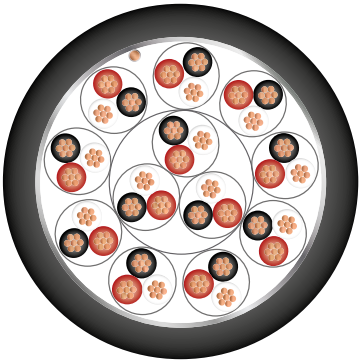
RE-Yw(St)Yw-fl

Application

UL-listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18
Insulation	heat resistant polyvinyl chloride PVC (90 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Outer jacket	heat resistant polyvinyl chloride PVC (90 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON TC nE mAWG OS UL THHW*) 600V 90 °C (194 °F) SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET *) 90 °C DRY / 75 °C WET (AWG 16, 18)



Technical data

Flame propagation	
- Test on single cable	UL 1581, sec. 1080 (VW-1 test)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +90°C (during operation) -5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
7.5 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93
Insulation resistance	min.	MΩ x km / MΩ x 1000ft		175 / 570 (at 15 °C)	
Mutual capacitance single element: 2 to 4 elements: above 4 elements:	nom.	nF/km / nF/1000ft	 170 / 52 155 / 48 125 / 39	 170 / 52 155 / 48 125 / 39	 170 / 52 155 / 48 125 / 39
Inductance	max.	mH/km		0.7	
L/R ratio max.	max.	µH/Ω	60	40	25
Test voltage U_{rms} (core : core)		V		2000	
Test voltage U_{rms} (core : shield)		V		2000	
Operating voltage		V		600	

ICON® Instrumentation Cable

UL 1277
TC
90 °C / 600 V

Flame Retardant, Sunlight Resistant

Single & Multi-Triple, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
1	0.76 / 30	1.14 / 45	9.9 / 0.39	150 / 105	7996C380
2	0.76 / 30	1.52 / 60	16.4 / 0.65	329 / 225	7996C381
4	0.76 / 30	1.52 / 60	18.8 / 0.74	506 / 345	7996C382
6	0.76 / 30	2.03 / 80	24.7 / 0.97	795 / 540	7996C383
8	0.76 / 30	2.03 / 80	26.4 / 1.04	973 / 660	7996C384
10	0.76 / 30	2.03 / 80	29.8 / 1.17	1183 / 805	7996C421
12	0.76 / 30	2.03 / 80	30.7 / 1.21	1369 / 925	7996C385
16	0.76 / 30	2.03 / 80	34.8 / 1.37	1775 / 1200	7996C386
24	0.76 / 30	2.03 / 80	41.6 / 1.64	2536 / 1715	7996C388
36	0.76 / 30	2.79 / 110	52.2 / 2.06	3894 / 2630	7996C422
AWG 16 /7					
1	0.76 / 30	1.14 / 45	9.0 / 0.35	115 / 90	7996C370
2	0.76 / 30	1.52 / 60	14.9 / 0.59	260 / 175	7996C371
4	0.76 / 30	1.52 / 60	17.1 / 0.67	380 / 260	7996C372
6	0.76 / 30	2.03 / 80	22.3 / 0.88	604 / 410	7996C373
8	0.76 / 30	2.03 / 80	23.8 / 0.94	728 / 480	7996C374
10	0.76 / 30	2.03 / 80	26.8 / 1.06	883 / 600	7996C429
12	0.76 / 30	2.03 / 80	27.7 / 1.09	1012 / 670	7996C375
16	0.76 / 30	2.03 / 80	31.3 / 1.23	1303 / 860	7996C376
24	0.76 / 30	2.03 / 80	37.4 / 1.47	1843 / 1220	7996C378
36	0.76 / 30	2.79 / 110	46.8 / 1.84	2849 / 1925	7996C430
AWG 18 /7					
1	0.76 / 30	1.14 / 45	8.5 / 0.33	100 / 75	7996C360
2	0.76 / 30	1.52 / 60	13.9 / 0.55	218 / 150	7996C361
4	0.76 / 30	1.52 / 60	15.9 / 0.63	311 / 215	7996C362
6	0.76 / 30	1.52 / 60	19.7 / 0.78	447 / 305	7996C363
8	0.76 / 30	2.03 / 80	22.1 / 0.87	592 / 400	7996C364
10	0.76 / 30	2.03 / 80	24.9 / 0.98	714 / 485	7996C439
12	0.76 / 30	2.03 / 80	25.7 / 1.01	815 / 555	7996C365
16	0.76 / 30	2.03 / 80	29.0 / 1.14	1044 / 710	7996C366
24	0.76 / 30	2.03 / 80	34.5 / 1.36	1457 / 985	7996C368
36	0.76 / 30	2.03 / 80	41.8 / 1.65	2098 / 1415	7996C440

RT = Radial Thickness

ICON Instrumentation Cable

UL 1277 LISTED
TC
90 °C / 600 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, PVC Jacket

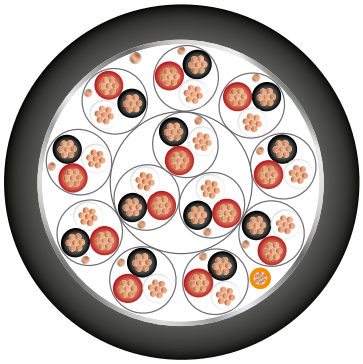
RE-Yw(St)Yw-fl TiMF

Application

UL-listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18
Insulation	heat resistant polyvinyl chloride PVC (90 °C)
Color code	black, white, red, continuously numbered on white core (1, 2, 3..) for multi-element
Individual shield	plastic coated aluminum tape in contact with tinned copper drain wire
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Outer jacket	heat resistant polyvinyl chloride PVC (90 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON TC nE mAWG STOS UL THHW*) 600V 90 °C (194 °F) SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET
	*) 90 °C DRY / 75 °C WET (AWG 16, 18)



Technical data

Flame propagation	
- Test on single cable	UL 1581, sec. 1080 (VW-1 test)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +90°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation
TiMF	triple in metal foil

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	175 / 570 (at 15 °C)		
Mutual capacitance	nom.	nF/km / nF/1000ft	170 / 52	170 / 52	170 / 52
Inductance	max.	mH/km	0.7		
L/R ratio max.	max.	µH/Ω	60	40	25
Test voltage U_{rms} (core : core)		V	2000		
Test voltage U_{rms} (core : shield)		V	2000		
Operating voltage		V	600		

ICON® Instrumentation Cable

UL 1277
TC
90 °C / 600 V

Flame Retardant, Sunlight Resistant

Multi-Triple, PVC-Insulation, Individual & Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl TiMF

Geometrical data					
No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
2	0.76 / 30	1.52 / 60	18.0 / 0.71	371 / 245	7996C410
4	0.76 / 30	2.03 / 80	21.9 / 0.86	634 / 410	7996C411
6	0.76 / 30	2.03 / 80	27.2 / 1.07	904 / 585	7996C412
8	0.76 / 30	2.03 / 80	29.1 / 1.15	1132 / 740	7996C413
10	0.76 / 30	2.03 / 80	32.9 / 1.30	1370 / 925	7996C423
12	0.76 / 30	2.03 / 80	34.0 / 1.34	1565 / 1020	7996C414
16	0.76 / 30	2.03 / 80	38.6 / 1.52	2029 / 1325	7996C415
24	0.76 / 30	2.79 / 110	47.8 / 1.88	3112 / 2030	7996C417
36	0.76 / 30	2.79 / 110	57.9 / 2.28	4456 / 3010	7996C424
AWG 16 /7					
2	0.76 / 30	1.52 / 60	16.3 / 0.64	289 / 195	7996C400
4	0.76 / 30	1.52 / 60	18.7 / 0.74	427 / 290	7996C401
6	0.76 / 30	2.03 / 80	24.5 / 0.96	681 / 460	7996C402
8	0.76 / 30	2.03 / 80	26.2 / 1.03	841 / 565	7996C403
10	0.76 / 30	2.03 / 80	29.5 / 1.16	1015 / 690	7996C431
12	0.76 / 30	2.03 / 80	30.5 / 1.20	1144 / 770	7996C404
16	0.76 / 30	2.03 / 80	34.6 / 1.36	1475 / 965	7996C405
24	0.76 / 30	2.03 / 80	41.3 / 1.63	2107 / 1385	7996C407
36	0.76 / 30	2.79 / 110	51.8 / 2.04	3225 / 2180	7996C432
AWG 18 /7					
2	0.76 / 30	1.52 / 60	15.3 / 0.60	250 / 170	7996C390
4	0.76 / 30	1.52 / 60	17.5 / 0.69	357 / 245	7996C391
6	0.76 / 30	2.03 / 80	22.9 / 0.90	571 / 375	7996C392
8	0.76 / 30	2.03 / 80	24.5 / 0.96	700 / 475	7996C393
10	0.76 / 30	2.03 / 80	27.6 / 1.09	845 / 570	7996C441
12	0.76 / 30	2.03 / 80	28.5 / 1.12	942 / 615	7996C394
16	0.76 / 30	2.03 / 80	32.2 / 1.27	1207 / 790	7996C395
24	0.76 / 30	2.03 / 80	38.5 / 1.52	1715 / 1125	7996C397
36	0.76 / 30	2.79 / 110	48.2 / 1.90	2628 / 1775	7996C442

RT = Radial Thickness

ICON® Instrumentation Control Cable

UL 13 / UL 2250

PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Core, PVC-Insulation, Collective Shield, PVC Jacket

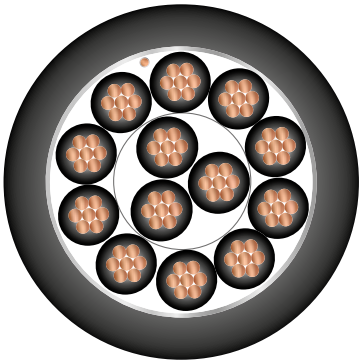
RE-Yw(St)Yw-fl

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, continuously numbered
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG PVC/PVC OS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	7.5 x cable diameter

Abbreviations

RE-	Instrumentation Control Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Control Cable

UL 13 / UL 2250
PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Core, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
2	0.51 / 20	1.02 / 40	8.2 / 0.32	109 / 75	79960666
4	0.51 / 20	1.02 / 40	9.3 / 0.37	162 / 110	79960667
6	0.51 / 20	1.27 / 50	11.5 / 0.45	241 / 165	79960668
8	0.51 / 20	1.27 / 50	12.6 / 0.49	303 / 205	79960669
10	0.51 / 20	1.27 / 50	14.4 / 0.57	365 / 250	79960670
12	0.51 / 20	1.27 / 50	14.9 / 0.59	417 / 285	79960671
16	0.51 / 20	1.52 / 60	16.9 / 0.67	554 / 375	79960672
24	0.51 / 20	1.52 / 60	20.7 / 0.82	794 / 335	79960673
36	0.51 / 20	1.78 / 70	24.2 / 0.95	1156 / 780	79960674
AWG 16 /7					
2	0.38 / 15	1.02 / 40	7.2 / 0.28	78 / 55	79960546
4	0.38 / 15	1.02 / 40	7.8 / 0.33	117 / 80	79960547
6	0.38 / 15	1.02 / 40	9.1 / 0.36	152 / 105	79960548
8	0.38 / 15	1.27 / 50	11.0 / 0.45	208 / 140	79960549
10	0.38 / 15	1.27 / 50	11.8 / 0.48	246 / 170	79960550
12	0.38 / 15	1.27 / 50	12.2 / 0.50	270 / 190	79960551
16	0.38 / 15	1.27 / 50	13.4 / 0.55	352 / 240	79960552
24	0.38 / 15	1.52 / 60	16.8 / 0.67	516 / 350	79960553
36	0.38 / 15	1.52 / 60	19.0 / 0.75	719 / 485	79960554
AWG 18 /7					
2	0.38 / 15	0.89 / 35	6.2 / 0.25	59 / 40	79960555
4	0.38 / 15	1.02 / 40	7.2 / 0.30	85 / 65	79960556
6	0.38 / 15	1.02 / 40	8.3 / 0.32	119 / 80	79960557
8	0.38 / 15	1.27 / 50	9.0 / 0.41	143 / 115	79960558
10	0.38 / 15	1.27 / 50	10.8 / 0.43	192 / 130	79960559
12	0.38 / 15	1.27 / 50	11.1 / 0.45	217 / 150	79960560
16	0.38 / 15	1.27 / 50	12.2 / 0.50	271 / 185	79960561
24	0.38 / 15	1.27 / 50	14.7 / 0.59	374 / 255	79960562
36	0.38 / 15	1.52 / 60	17.1 / 0.67	541 / 365	79960563
AWG 20 /7					
2	0.30 / 12	0.89 / 35	5.3 / 0.22	39 / 35	79960564
4	0.30 / 12	0.89 / 35	6.0 / 0.24	56 / 45	79960565
6	0.30 / 12	0.89 / 35	6.8 / 0.27	85 / 55	79960566
8	0.30 / 12	1.02 / 40	8.2 / 0.32	110 / 75	79960567
10	0.30 / 12	1.02 / 40	8.8 / 0.35	125 / 85	79960568
12	0.30 / 12	1.02 / 40	8.9 / 0.36	132 / 95	79960569
16	0.30 / 12	1.27 / 50	10.6 / 0.42	190 / 130	79960570
24	0.30 / 12	1.27 / 50	12.4 / 0.49	255 / 175	79960571
36	0.30 / 12	1.27 / 50	13.8 / 0.49	345 / 235	79960572

RT = Radial Thickness

ICON® Instrumentation Control Cable

UL 13 / UL 2250

PLTC/ITC

105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Core, PVC-Insulation, Collective Shield, Armor, PVC Jacket

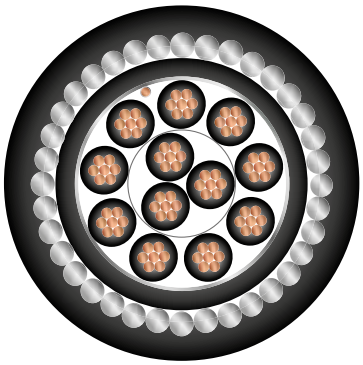
RE-Yw(St)YwSWAYw-fl

Application

UL-listed power limited tray cable in compliance with NEC article 725.154, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; not for direct burial.

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18 , AWG 20
Insulation	heat resistant polyvinyl chloride PVC (105 °C)
Color code	black, continuously numbered
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Inner jacket 1	heat resistant polyvinyl chloride PVC (105 °C)
Armor	galvanized round steel wires
Outer jacket	heat resistant polyvinyl chloride PVC (105 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON PLTC/ITC nE mAWG PVC/PVC OS (UL) 105 °C SUN RES PRODUCTION LOT CODE LENGTH MARKING IN FEET



Technical data

Flame propagation	
- Test on single cable	UL13 (VW-1)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Oil resistance	ICEA S-73-532
Sunlight resistance	UL 1581 section 1200

Temperature range	-40°C up to +105°C (during operation) -5°C up to +50°C (during installation)
Min. bending radius - repeated bending	10 x cable diameter

Abbreviations

RE-	Instrumentation Control Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC inner jacket, heat resistant
SWA	steel wire armor
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18	AWG 20
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93	35.8 / 10.92
Insulation resistance	min.	MΩ x km / MΩ x 1000ft	30.5 / 100 (at 15.6 °C)			
Mutual capacitance	nom.	nF/km / nF/1000ft	200 / 61	200 / 61	200 / 61	200 / 61
Inductance	max.	mH/km	1			
L/R ratio max.	max.	µH/Ω	60	40	25	
Test voltage U_{rms} (core : core)		V	1500			
Test voltage U_{rms} (core : shield)		V	1500			
Operating voltage		V	300			

ICON® Instrumentation Control Cable

UL 13 / UL 2250 UL LISTED
PLTC/ITC
105 °C / 300 V

Flame Retardant, Sunlight Resistant

Multi-Core, PVC-Insulation, Collective Shield, Armor, PVC Jacket

RE-Yw(St)YwSWAYw-fl

Geometrical data

No. of elements	RT of insulation nom. (mm / mils)	RT of inner jacket 1 nom. (mm / mils)	Dia. over inner jacket 1 nom. (mm / in)	Dia. of armor wire nom. (mm)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7								
2	0.51 / 20	1.02 / 40	8.2 / 0.32	0.9	1.27 / 50	12.6 / 0.49	320 / 215	79840510
4	0.51 / 20	1.02 / 40	9.3 / 0.37	0.9	1.27 / 50	13.7 / 0.54	399 / 270	79840511
6	0.51 / 20	1.27 / 50	11.5 / 0.45	0.9	1.52 / 60	16.4 / 0.64	554 / 375	79840512
8	0.51 / 20	1.27 / 50	12.5 / 0.49	0.9	1.52 / 60	17.4 / 0.68	635 / 430	79840513
10	0.51 / 20	1.27 / 50	14.4 / 0.57	0.9	1.52 / 60	19.3 / 0.76	741 / 500	79840514
12	0.51 / 20	1.27 / 50	14.9 / 0.59	0.9	1.52 / 60	19.8 / 0.78	806 / 545	79840515
16	0.51 / 20	1.52 / 60	16.9 / 0.67	1.25	1.78 / 70	23.0 / 0.90	1143 / 770	79840516
24	0.51 / 20	1.52 / 60	20.7 / 0.82	1.25	1.78 / 70	26.8 / 1.05	1501 / 1010	79840517
36	0.51 / 20	1.78 / 60	24.7 / 0.97	1.25	1.78 / 70	30.7 / 1.21	1991 / 1340	79840518
AWG 16 /7								
2	0.38 / 15	1.02 / 40	7.2 / 0.30	0.9	1.27 / 50	11.6 / 0.45	268 / 185	79840440
4	0.38 / 15	1.02 / 40	7.8 / 0.30	0.9	1.27 / 50	12.2 / 0.50	313 / 225	79840441
6	0.38 / 15	1.02 / 40	9.0 / 0.40	0.9	1.27 / 50	13.4 / 0.53	378 / 260	79840442
8	0.38 / 15	1.27 / 40	11.0 / 0.50	0.9	1.52 / 60	15.9 / 0.64	501 / 345	79840443
10	0.38 / 15	1.27 / 50	11.8 / 0.50	0.9	1.52 / 60	16.7 / 0.67	557 / 385	79840444
12	0.38 / 15	1.27 / 50	12.2 / 0.50	0.9	1.52 / 60	17.1 / 0.69	614 / 415	79840445
16	0.38 / 15	1.27 / 50	13.4 / 0.60	0.9	1.52 / 60	18.3 / 0.74	697 / 485	79840446
24	0.38 / 15	1.52 / 60	16.8 / 0.70	1.25	1.78 / 70	22.9 / 0.91	1106 / 745	79840447
36	0.38 / 15	1.52 / 60	19.0 / 0.80	1.25	1.78 / 70	25.1 / 0.99	1371 / 925	79840448
AWG 18 /7								
2	0.38 / 15	0.89 / 35	6.2 / 0.30	0.9	1.27 / 50	10.5 / 0.41	226 / 155	79840449
4	0.38 / 15	1.02 / 40	7.2 / 0.30	0.9	1.27 / 50	11.6 / 0.47	276 / 195	79840450
6	0.38 / 15	1.02 / 40	8.3 / 0.30	0.9	1.27 / 50	12.7 / 0.49	331 / 225	79840451
8	0.38 / 15	1.02 / 50	9.0 / 0.40	0.9	1.27 / 50	13.4 / 0.58	423 / 285	79840452
10	0.38 / 15	1.27 / 50	10.8 / 0.40	0.9	1.52 / 60	15.2 / 0.62	455 / 330	79840453
12	0.38 / 15	1.27 / 50	11.1 / 0.50	0.9	1.52 / 60	16.0 / 0.64	528 / 355	79840454
16	0.38 / 15	1.27 / 50	12.2 / 0.50	0.9	1.52 / 60	17.1 / 0.69	610 / 410	79840455
24	0.38 / 15	1.27 / 50	14.7 / 0.60	0.9	1.52 / 60	19.6 / 0.78	749 / 515	79840456
36	0.38 / 15	1.52 / 60	17.2 / 0.70	1.25	1.78 / 70	23.3 / 0.91	1129 / 765	79840457
AWG 20 /7								
2	0.30 / 12	0.89 / 35	5.3 / 0.20	0.9	1.02 / 40	9.1 / 0.36	176 / 125	79840458
4	0.30 / 12	0.89 / 35	6.0 / 0.20	0.9	1.27 / 50	10.3 / 0.41	219 / 160	79840459
6	0.30 / 12	1.02 / 35	7.1 / 0.30	0.9	1.27 / 50	11.5 / 0.43	259 / 180	79840460
8	0.30 / 12	1.02 / 40	7.6 / 0.30	0.9	1.27 / 50	12.0 / 0.49	319 / 215	79840461
10	0.30 / 12	1.02 / 40	8.6 / 0.40	0.9	1.27 / 50	13.0 / 0.52	335 / 235	79840462
12	0.30 / 12	1.02 / 40	8.9 / 0.40	0.9	1.27 / 50	13.3 / 0.53	371 / 255	79840463
16	0.30 / 12	1.27 / 50	10.2 / 0.40	0.9	1.27 / 50	14.6 / 0.59	457 / 310	79840464
24	0.30 / 12	1.27 / 50	12.3 / 0.50	0.9	1.52 / 60	17.2 / 0.68	575 / 395	79840465
36	0.30 / 12	1.27 / 50	13.8 / 0.50	0.9	1.52 / 60	18.7 / 0.73	706 / 475	79840466

RT = Radial Thickness

ICON® Instrumentation Cable Control Cable

UL 1277 LISTED

TC

90 °C / 600 V

Flame Retardant, Sunlight Resistant

Multi-Core, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

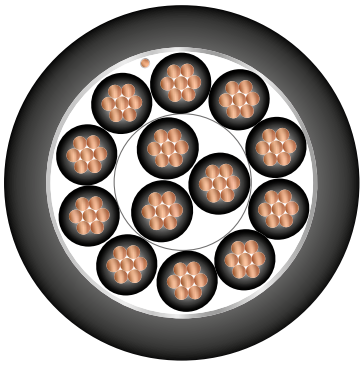
Application

UL-listed tray cable in compliance with NEC article 336, for use in hazardous classified locations class I and class II division 2 acc. to NEC 501.10(B) and NEC 502.10(B).
Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial.
(Please note the relevant legal / local installation requirements).

Construction

Conductor	plain annealed copper wire, stranded, size: AWG 14 , AWG 16 , AWG 18
Insulation	heat resistant polyvinyl chloride PVC (90 °C)
Color code	black, continuously numbered
Wrapping	at least 1 layer of plastic tape
Collective shield	plastic coated aluminum tape in contact with tinned copper drain wire
Outer jacket	heat resistant polyvinyl chloride PVC (90 °C), black, blue for intrinsically safe systems
Cable marking	LEONI KERPEN ICON TC nE mAWG OS UL THHW*) 600V 90 °C (194 °F) SUN RES DIR BUR PRODUCTION LOT CODE LENGTH MARKING IN FEET

*) 90 °C DRY / 75 °C WET (AWG 16, 18)



Technical data

Flame propagation	
- Test on single cable	UL 1581, sec. 1080 (VW-1 test)
- Test on bunched cables	UL 1685 (vertical tray)
Gas/vapor tightness outer jacket	NEC 501.15 (D) and (E)
Limiting Oxygen Index (LOI)	ASTM D 2863 (min. 30 %)
Flammability temperature (FT)	ISO 4589-3 ann. A (min. +250 °C)
Sunlight resistance	UL 1581 section 1200

Temperature range	
-40°C up to +90°C (during operation)	
-5°C up to +50°C (during installation)	
Min. bending radius - repeated bending	
7.5 x cable diameter	

Abbreviations

RE-	Instrumentation Cable
Yw	PVC insulation, heat resistant
(St)	collective shield
Yw	PVC outer jacket, heat resistant
-fl	reduced flame propagation

Electrical Properties at 20 °C

Conductor cross-section (AWG)			AWG 14	AWG 16	AWG 18
Conductor resistance	max.	Ω/km / Ω/1000ft	8.9 / 2.72	14.3 / 4.36	22.8 / 6.93
Insulation resistance	min.	MΩ x km / MΩ x 1000ft		175 / 570 (at 15 °C)	
Mutual capacitance	nom.	nF/km / nF/1000ft	170 / 52	170 / 52	170 / 52
Inductance	max.	mH/km		0.7	
L/R ratio max.	max.	µH/Ω	60	40	25
Test voltage U_{rms} (core : core)		V		2000	
Test voltage U_{rms} (core : shield)		V		2000	
Operating voltage		V		600	

ICON® Instrumentation Cable Control Cable

UL 1277
TC
90 °C / 600 V

Flame Retardant, Sunlight Resistant

Multi-Core, PVC-Insulation, Collective Shield, PVC Jacket

RE-Yw(St)Yw-fl

Geometrical data					
No. of elements	RT of insulation nom. (mm / mils)	RT outer jacket nom. (mm / mils)	Outer dia. approx. (mm / in)	Weight approx. (kg/km / lbs/1000ft)	Part number Color black
AWG 14 /7					
2	0.76 / 30	1.14 / 45	9.5 / 0.37	124 / 85	79960600
4	0.76 / 30	1.14 / 45	10.8 / 0.42	183 / 125	79960601
6	0.76 / 30	1.14 / 45	12.8 / 0.50	293 / 180	79960602
8	0.76 / 30	1.52 / 60	14.7 / 0.57	346 / 240	79960603
10	0.76 / 30	1.52 / 60	16.9 / 0.66	429 / 290	79960604
12	0.76 / 30	1.52 / 60	17.5 / 0.69	485 / 330	79960605
16	0.76 / 30	1.52 / 60	19.3 / 0.76	619 / 425	79960606
24	0.76 / 30	2.03 / 80	24.8 / 0.97	950 / 640	79960607
36	0.76 / 30	2.03 / 80	28.2 / 1.11	1358 / 905	79960608
AWG 16 /7					
2	0.76 / 30	1.14 / 45	8.6 / 0.34	98 / 70	79960610
4	0.76 / 30	1.14 / 45	9.9 / 0.39	143 / 100	79960611
6	0.76 / 30	1.14 / 45	11.7 / 0.46	199 / 135	79960612
8	0.76 / 30	1.14 / 45	12.7 / 0.50	246 / 170	79960613
10	0.76 / 30	1.52 / 60	15.4 / 0.60	326 / 220	79960614
12	0.76 / 30	1.52 / 60	15.8 / 0.62	365 / 255	79960615
16	0.76 / 30	1.52 / 60	17.5 / 0.69	461 / 310	79960616
24	0.76 / 30	2.03 / 80	22.5 / 0.88	713 / 480	79960617
36	0.76 / 30	2.03 / 80	25.4 / 0.99	979 / 660	79960618
AWG 18 /7					
2	0.76 / 30	1.14 / 45	8.1 / 0.32	83 / 60	79960619
4	0.76 / 30	1.14 / 45	9.3 / 0.36	117 / 80	79960620
6	0.76 / 30	1.14 / 45	10.9 / 0.42	163 / 110	79960621
8	0.76 / 30	1.14 / 45	12.0 / 0.47	203 / 140	79960622
10	0.76 / 30	1.52 / 60	14.6 / 0.57	269 / 185	79960623
12	0.76 / 30	1.52 / 60	14.7 / 0.58	297 / 200	79960624
16	0.76 / 30	1.52 / 60	16.2 / 0.64	372 / 250	79960625
24	0.76 / 30	1.52 / 60	19.8 / 0.78	523 / 355	79960626
36	0.76 / 30	2.03 / 80	23.6 / 0.92	786 / 530	79960627

RT = Radial Thickness

General

General units

Length				
1	mil	=	0.0254	mm
1	inch (in“)	=	25.4	mm
1	foot (ft.‘)	=	0.305	m
1	yard (yd)	=	0.914	m
1	mile (mi.)	=	1.61	km
1	statute mile (mi.)	=	1.61	km
1	intern. naut. mile (sm)	=	1.85	km

Area				
1	circ. mil (CM)	=	0.0005067	mm^2
1	MCM	=	0.5067	mm^2
1	square inch (in^2)	=	645.16	mm^2
1	square foot (ft^2)	=	0.0929	m^2
1	square yard (yd^2)	=	0.836	m^2
1	square mile (sq.mi.)	=	2.59	km^2

Volume				
1	cubic inch (in^3)	=	16.39	cm^3
1	cubic foot (ft^3)	=	0.0283	m^3
1	cubic yard (yd^3)	=	0.765	m^3
1	barrel	=	159	l
1	US gallon (US gal)	=	3.79	l
1	UK gallon (UK gal)	=	4.55	l

Electrical Unit per Length				
1	µf per mile	=	0.62	µF/km
1	MΩ per mile	=	1.62	MΩ km
1	decibel per mile	=	0.62	dB/km
1	pf per foot	=	3.28	pF/m
1	decibel per 1000 ft.	=	3.28	dB/km
1	Ω per 1000 ft.	=	3.28	Ω/km

Force				
1	poundal (pdl)	=	0.1 38	N
1	pound-force (lbf)	=	4.448	N
1	Brit. ton-force	=	9964	N

Mass				
1	ounce (oz)	=	0.0284	kg
1	pound (lb)	=	0.454	kg
1	Brit. ton (long ton)	=	1016	kg
1	US ton (short ton)	=	907	kg

Power				
1	horsepower (H.P.)	=	0.746	kW

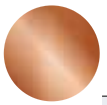
Energy				
1	Brit. therm. unit (BU)	=	1055	J
1	Brit. therm. unit	=	0.000293	kWh

Pressure						
1	bf/in^2 (psi)	=	0.06895	bar	=	6.895 N/m^2
1	lbf/ft^2	=	0.000479	bar	=	47.9 N/m^2
1	lbf/yd^2	=	0.0000532	bar	=	5.32 N/m^2
1	lbf/in^2 (psi)	=	0.703	kp/cm^2	=	0.0703 at

Abbreviations for multiples and submultiples							
prefix	abridged mark	multiple power	name	prefix	abridged mark	sub multiple power	name
Tera	T	10^{12}	billion *	Piko	p	10^{12}	billionth *
Giga	G	10^9	milliard *	Nano	n	10^9	milliardth *
Mega	M	10^6	million	Mikro	µ	10^6	millionth
Kilo	k	10^3	thousand	Milli	m	10^3	thousandth
Hekto	h	10^2	hundred	Zenti	c	10^2	hundredth
Deka	da	10^1	ten	Dezi	d	10^1	tenth

*In USA 10^9 indicates a billion and 10^{12} indicates a trillion

Conductors – AWG and metric values by comparison



Solid plain annealed copper conductors

Conductor size				Electrical resistance[2]			
AWG	Metric	No. of wires	Conductor-Ø	EN 50288-7[3]		UL 13[4]	
	mm²		mm	Ω/km	Ω/1000 ft.	Ω/km	Ω/1000 ft.
30	0.051	1	0.254	–	–	361	110
28	0.081	1	0.320	–	–	228	69.3
26	0.128	1	0.404	–	–	154	46.9
24	0.205	1	0.511	–	–	97.6	29.7
22	0.324	1	0.643	–	–	56.3	17.2
–	0.5 [1]	1	0.8	36.8	11.2	–	–
20	0.517	1	0.813	–	–	35.2	10.7
–	0.75 [1]	1	1.0	25.0	7.6	–	–
18	0.82	1	1.02	–	–	22.3	6.8
–	1.0 [1]	1	1.13	18.5	5.6	–	–
16	1.3	1	1.29	–	–	14.0	4.3
–	1.5 [1]	1	1.37	12.3	3.76	–	–
14	2.1	1	1.63	–	–	8.79	2.67
–	2.5	1	1.76	7.56	2.31	–	–
12	3.3	1	2.05	–	–	5.52	1.68
–	4.0	1	2.26	4.70	1.43	–	–

Stranded plain annealed copper conductors

Conductor size				Electrical resistance[2]			
AWG	Metric	No. of wires	Conductor-Ø	EN 50288-7[3]		UL 13[4]	
	mm²		mm	Ω/km	Ω/1000 ft.	Ω/km	Ω/1000 ft.
24	0.205	7	0.579	–	–	91.1	27.8
22	0.327	7	0.729	–	–	57.6	17.6
–	0.5[1]	7	0.9	36.8	11.2	–	—
20	0.517	7	0.919	–	–	35.8	11.0
–	0.75 [1]	7	1.11	25.0	7.6	–	—
18	0.82	7	1.16	–	–	22.8	6.9
–	1.0 [1]	7	1.29	18.5	5.6	–	—
16	1.3	7	1.46	–	–	14.2	4.36
–	1.5 [1]	7	1.59	12.3	3.76	–	—
14	2.1	7	1.85	–	–	8.94	2.72
–	2.5 [1]	7	2.01	7.56	2.31	–	—
12	3.3	7	2.32	–	–	5.63	1.72
–	4.0	7	2.58	4.70	1.43	–	–

[1] *Sizes according to EN 50288-7.*

[2] *The value for the electrical resistance is given for 20 °C (68.0 °F).*

[3] *The value for the electrical resistance according to EN 50288-7 is for the finished cables with multi pairs/triples.*

[4] *The value for the electrical resistance according to UL 13 is calculated for "one pair/triple and an assembly of pairs/triples".*

Color Codes

Color code of instrumentation and instrumentation control cables according to UL 13, UL 1277

Color code of standardized product program.

	Cabling element		
	Core*	**Pair****	**Triple ****
Rated voltage 300 V	black continuously numbered 1, 2, 3… for multi-core cables, starting with 1 in the center	black/white continuously numbered on white core 1, 2, 3… for multi-element cables, starting with 1 in the center	black/white/red
Rated voltage 600 V	black continuously numbered 1, 2, 3… for multi-core cables, starting with 1 in the center	black/white continuously numbered on white core 1, 2, 3… for multi-element cables, starting with 1 in the center	black/white/red

* *If specified green-yellow core principally applied as last element in the outer layer.*

** *Identification scheme for elements with and without individual screen.*

Further color codes on request.

Type designation

The type designations of LEONI's instrumentation- and thermocouple cables are read as follows:

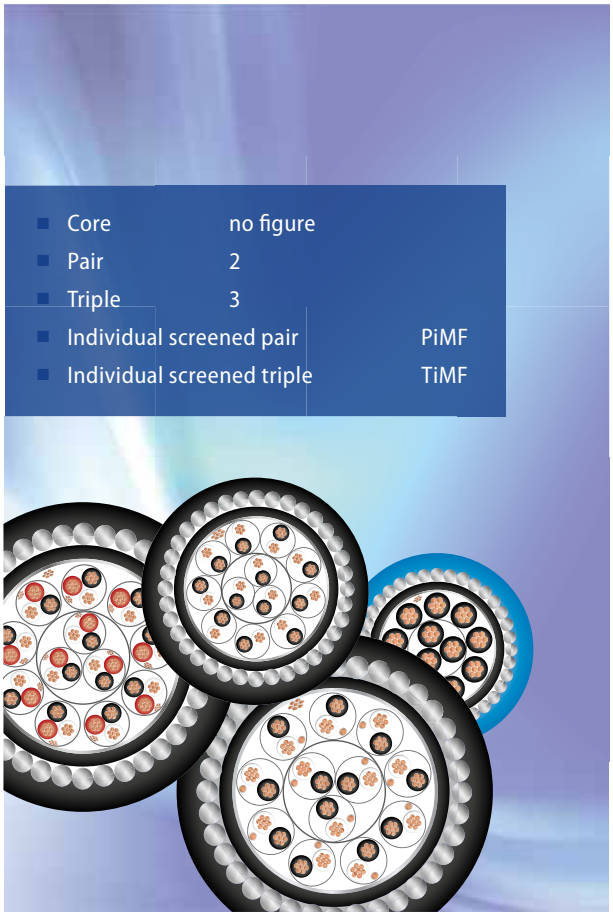
- type abbreviation
- number of cabling elements
- type of cabling element
- conductor size in mm² AWG
  followed by (when applicable)

- type of conductor material (for thermocouple cable only,
- abbreviation for cables with circuit integrity properties
- Individual screening of pairs and triples
- rated voltage

Examples

Type of Cabling Elements

The type of cabling elements are indicated by figures responsible by figures with an additional information for individual screened cabling elements



RE-2Y(St)YMYSWAY-fl 24 x 3 x AWG TiMF 300 V

Instrumentation cable (RE), 24 triples (3), conductor size AWG, insulation of PE (2Y), individual TiMF and overall screen (St), inner sheath of PVC (Y), lead sheath (M), inner sheath made of PVC (Y), steel wire armour (SWA), outer sheath of PVC (Y-fl), rated voltage 300 V.

RT-Yw(St)YwSWAYw-fl 8 x 2 x AWG KX 300 V

Thermocouple extension (RT-), 8 pairs (2), conductor AWG, conductor material (KX), insulation of heat resistant PVC (Yw), overall screen (St), inner sheath made of heat resistant PVC (Yw), steel wire armour (SWA), outer sheath made of heat resistant PVC (Yw), rated voltage 300 V.

RE-2X(St)H 8 x 2.5 mm² CI 500 V

Instrumentation control cable (RE-),
Zero halogen with Circuit Integrity (CI),
8 cores, conductor size 2.5 mm², insulation of XLPE (2X),
overall screen (St), outer sheath made of Zero halogen,
flame-retardant compound (H), rated voltage 500 V.

RE-2X(L)2Y4YSWA2Y 12 x 2 x AWG, PiMF 300 V

Instrumentation cable (RE), 12 pairs 2, conductor size AWG, insulation made of XLPE (2X), individual screen (PiMF), multi layer sheath (L)(2Y), steel wire armour (SWA), outer sheath made of PE (2Y), rated voltage 300 V.

- According to EN 50307
- Thickness: 0.03 x D*+0.7 mm

*(D = Diameter under lead sheath)

Abbreviations of the LEONI cable code

Cable type	
Instrumentation and instrumentation control cable	RE-
Thermocouple extension or compensating cable	RT-
Metal cladding of conductor	
Copper conductor, tinned	-v
Insulation and/or sheath materials	
Insulation, inner or outer sheath of polyvinylchloride (PVC)	Y
Insulation, inner or outer sheath of heat resistant polyvinylchloride (PVCw)	Yw
Outer sheath of polyvinylchloride of increased thickness	Yv
Outer sheath of polyvinylchloride with increased oil resistance	Yö
Insulation, inner or outer sheath of polyethylene (PE)	2Y
Insulation of cross linked polyethylene (XLPE)	2X
Inner or outer sheath of zero halogen, flame-retardant compound (LSZH)	H
Insulation of silicone (Sil)	2G
Covering of polyamide	4Y
Screening	
Static screen of aluminium coated polyester foil	(St)
Longitudinally applied aluminium tape, one or both sides plastic-coated	(L)
Braid of tinned or untinned copper wires over the cable core	C
Wrapping of copper foil	K
Pair in metal foil	PiMF
Triple in metal foil	TiMF
Braid of tinned or untinned copper wires over a single cabling element	(C)
Metal sheath	
Lead sheath	M
Armour	
Galvanized round steel wires	SWA
Galvanized round steel wires with counter helix	RG
Galvanized flat steel wires with counter helix	FG
Double layer of galvanized steel tapes	B
Braid made of galvanized round steel wires	Q
Further properties	
Circuit Integrity (resistance to fire)	CI
Increased flame retardancy; meets requirements for IEC 60332-3-24 (cat. C)	-fl
Cable core filled with petrojelly	F

Find out more:

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