

DATENBLATT

MEDICAL EQUIPMENT APPLICATION SERIES



DISPOSABLE OXYGEN CABLE

ELECTRICAL PARAMETER

- Rated temperature: 80 °C
- Rated voltage: AC 1000V/min | Voltage applied between any two cores – including shielding.

CONSTRUCTION

- Conductor: bare copper or Tinned copper
- Insulation material: PVC
- Shielding: braiding with tinned copper or copper alloy wires
- Jacket: medical grade PVC

CHARACTERISTICS

- Biocompatibility: ISO10993-5 & ISO10993-10
- High flexibility: bending radius less than 3D
- Cable tensile strength: ≥ 500 N
- High swing*: 5000-10000 (Reusable) | *Note: The number of swings can be increased according to customer requirements.
- Capacitance & noise: Can be designed according to customer requirements.

REFERENCE STANDARD

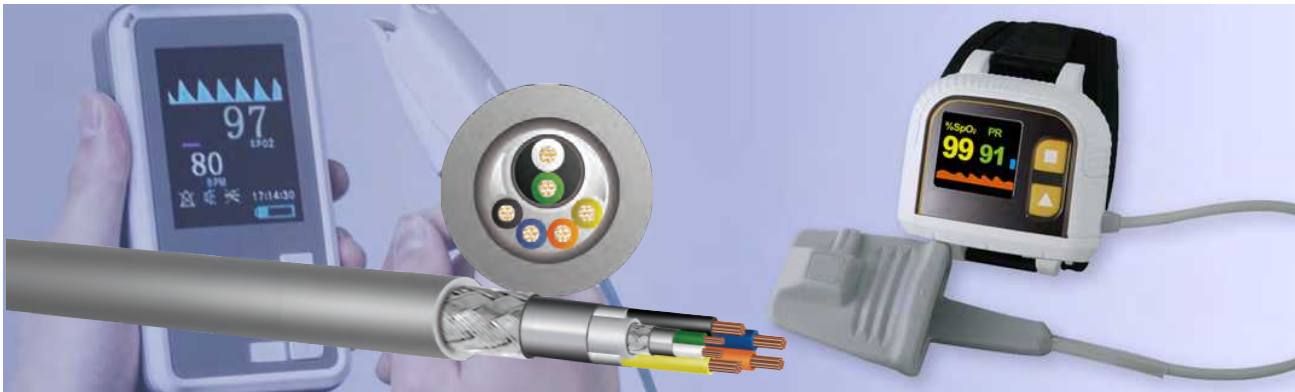
- ISO 10993

TYPICAL APPLICATIONS

- Application: Oxygen probe cord

Construction	AWG	Conductor resistance	Insulation resistance	Filler	Characteristic
1C+2C	28, 30, 32	150 ~ 595	10	Cotton	Disposable product with favorable price.
1P+2C					
1P+3C					

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REUSABLE OXYGEN CABLE

ELECTRICAL PARAMETER

- Rated temperature: 80 °C
- Rated voltage: AC 1000V/min | Voltage applied between any two cores – including shielding.

CONSTRUCTION

- Conductor: bare copper or tinned copper, copper alloy, tinsel
- Insulation material: PVC or PP, PE, Teflon
- Shielding: braiding with bare copper or tinned copper, copper alloy wires
- Jacket: medical grade PVC or TPU, TPV, TPE

CHARACTERISTICS

- Biocompatibility: ISO10993-5 & ISO10993-10
- High flexibility: bending radius less than 3D
- Cable tensile strength: ≥ 500 N
- High swing*: 5000-10000 (Reusable) | *Note: The number of swings can be increased according to customer requirements.
- Capacitance & noise: Can be designed according to customer requirements.

REFERENCE STANDARD

- ISO 10993

TYPICAL APPLICATIONS

- Application: Oxygen probe cord

Construction	AWG	Conductor resistance	Insulation resistance	Filler	Characteristic
1C+2C	26, 28, 30, 32	150 ~ 595	100	Cotton or Nylon, Kevlar	Long service life, anti-corrosion, excellent flexibility, reusable after disinfection
1P+2C					
1P+3C					
1P+4C					
1P+5C					

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MEDICAL EQUIPMENT APPLICATION SERIES



ELECTROCARDIOGRAM LEAD CABLE - TRUNK CABLE

ELECTRICAL PARAMETER

- Rated temperature: 80 °C
- Rated voltage: AC 1500V/min | Voltage applied between any two cores – including shielding.

CONSTRUCTION

- Conductor: bare copper or tinned copper, copper alloy, tinsel
- Insulation material: PP or PE, TPE, Teflon
- Shielding: braiding with semi-conductive + tinned copper or copper alloy wires
- Jacket: medical grade PVC or TPU, TPV, TPE

CHARACTERISTICS

- Biocompatibility: ISO10993-5 & ISO10993-10
- High flexibility: bending radius less than 3D
- Cable tensile strength: ≥ 200 N
- High swing*: 2000 | *Note: The number of swings can be increased according to customer requirements.
- Low noise: noise after 1.5 m lifting ≤ 50 μ V

REFERENCE STANDARD

- AAMI EC-53 & ISO10993

TYPICAL APPLICATIONS

- Application: ECG.

Construction	AWG	Conductor resistance	Insulation resistance	Filler	Characteristic
3C	24, 26, 28, 30	94.2 ~ 595	10	Kevlar	Long service life, anti-corrosion, excellent flexibility, reusable after disinfection
5C					
10C					
12C	28, 30				
16C					

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MEDICAL EQUIPMENT APPLICATION SERIES



ELECTROCARDIOGRAM LEAD CABLE - TRUNK CABLE (FLAT CABLE)

ELECTRICAL PARAMETER

- Rated temperature: 80 °C
- Rated voltage: AC 1000V/min | Voltage applied between any two cores – including shielding.

CONSTRUCTION

- Conductor: bare copper or tinned copper, copper alloy, tinsel
- Insulation material: PP or PE, TPE, Teflon
- Shielding: braiding with semi-conductive + tinned copper or copper alloy wires
- Jacket: medical grade PVC or TPU, TPV, TPE

CHARACTERISTICS

- Biocompatibility: ISO10993-5 & ISO10993-10
- High flexibility: bending radius less than 3D
- Cable tensile strength: ≥ 30 N
- High swing*: > 300 | *Note: The number of swings can be increased according to customer requirements.
- Low noise: noise after 1.5 m lifting ≤ 50 μ V

REFERENCE STANDARD

- AAMI EC-53 & ISO10993

TYPICAL APPLICATIONS

- Application: ECG.

Construction	AWG	Conductor resistance	Insulation resistance	Characteristic
3F	24, 26, 28, 30	94.2 ~ 595	10	Long service life, anti-corrosion, excellent flexibility, reusable after disinfection
5F				
10F				
12F	28, 30			
16F				

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MEDICAL EQUIPMENT APPLICATION SERIES



ELECTROCARDIOGRAM LEAD CABLE - BRANCH CABLE

ELECTRICAL PARAMETER

- Rated temperature: 80 °C
- Rated voltage: AC 1000V/min | Voltage applied between any two cores – including shielding.

CONSTRUCTION

- Conductor: bare copper or tinned copper, copper alloy, tinsel
- Insulation material: PP or PE, TPE, Teflon
- Shielding: braiding with semi-conductive + tinned copper or copper alloy wires
- Jacket: medical grade PVC or TPU, TPV, TPE

CHARACTERISTICS

- Biocompatibility: ISO10993-5 & ISO10993-10
- High flexibility: bending radius less than 3D
- Cable tensile strength: $\geq 200\text{N}$
- High swing*: 2000 | *Note: The number of swings can be increased according to customer requirements.
- Low noise: noise after 1.5m lifting $\leq 50\mu\text{V}$

REFERENCE STANDARD

- AAMI EC-53 & ISO10993

TYPICAL APPLICATIONS

- Application: ECG.

Construction	AWG	Conductor resistance	Insulation resistance	Filler	Characteristic
1C	24	94.2 ~ 595	10	None	Long service life, anti-corrosion, excellent flexibility, reusable after disinfection
1C	26				
1C	28				
1C	30				
1C	32				

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MEDICAL EQUIPMENT APPLICATION SERIES



CABLE FPR CT AND NMR MACHINES

ELECTRICAL PARAMETER

- Rated temperature: 80 °C ~ 105 °C
- Rated voltage: 30V ~ 300V.

CONSTRUCTION

- Insulation, braiding and jacket

CHARACTERISTICS

- Fire resistance: Passes VW-1 flame test
- Flexibility abrasion
- Abrasion resistance

SCOPE OF APPLICATIONS

- Internal or external connections

Cable	Certification requirements	Bending Life	Test method
C-arm power supply cable	UL1015	N.A.	swing bending
High Voltage Cable, Control Cable, Data Cable, Encoder Cable	UL10504, UL20276	400 K times	distortion
CCP power supply line, CCP signal line, switch connection line, encoder connection line	UL20276	400 K times	swing bending
Horizontal motor small tow chain connection and encoder small tow chain connection cable	UL20276	400 K times	swing bending tow chain

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MEDICAL EQUIPMENT APPLICATION SERIES



CABLE FOR BEAUTY EQUIPMENT

ELECTRICAL PARAMETER

- Rated temperature: 80 °C
- Rated voltage: 300V

MATERIAL SELECTION

- Conductor: tinned copper or alloy copper, tinsel
- Insulation material: PVC or PE, PP
- Filler: Polyester or Kevlar (reinforcement core)
- Shielding: braiding with Al-mylar and tinned copper wires
- Jacket: medical grade TPU
- Control: ISO13485 System Control ISO13485
- Characteristics: biocompatibility
- According to customer request

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MEDICAL DATA CABLES

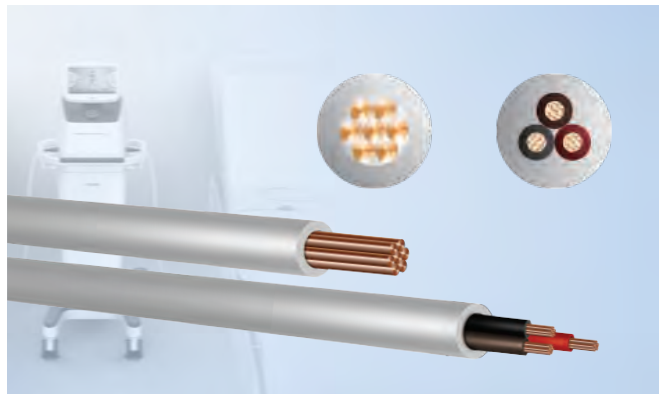
The products such as UL2725, UL2464 and UL20276 are mainly used for signal transmission of medical devices, which can meet the requirements of performance as well as biocompatibility according to ISO13485.

Type	Construction	Insulation	Jacket	Min Conductor	Max Conductor	Temp. °C	Voltage	Flame	Characteristic
2725	Two or more singles	Labeled	Medical PVC	n/a	n/a	60~80	30AC	Horizontal	Qualified for biocompatibility according to ISO13485
20276				40AWG					

Disclaimer: In the absence of confirmation by device specification sheets, ES&S Solutions GmbH takes no responsibility for any defects that occur in equipment using any of ES&S's devices, shown in catalogs, data books, etc. Contact ES&S in order to obtain the latest device specification sheets before using any ES&S's device. ES&S reserves the right to make changes in the specifications, characteristics, data, materials, structures and other contents described herein at any time without notice in order to improve design or reliability. Contact ES&S in order to obtain the latest specification sheets before using any ES&S's device. Manufacturing locations are also subject to change without notice. Observe the following points when using any device in this publication. ES&S takes no responsibility for damage caused by improper use of the devices. ES&S's devices shall not be used for equipment that requires extremely high level of reliability, such as: -Military and space applications -Nuclear power control equipment -Medical equipment for life support

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MEDICAL EQUIPMENT APPLICATION SERIES



UL MEDICAL CABLES

The products such as UL1015, UL1283, UL2587 are mainly used for power transmission of medical devices, which can meet the requirements of UL performance as well as biocompatibility according to ISO13485.

Type	Construction	Insulation	Conductor		Nom. thickness (mm)	Nom. diameter (mm)	Characteristic
			AWG	NO./mm			
1015	1C	PVC	22AWG	17/0.16	0.76	2.40	Qualified for biocompatibility according to ISO13485
			20AWG	21/0.16		2.52	
			18AWG	41/0.16		2.76	
			16AWG	26/0.254		3.00	
			14AWG	41/0.254		3.45	
			12AWG	65/0.254		3.95	
			10AWG	66/0.32		4.55	
1283	1C	PVC	8AWG	169/0.254	1.52	7.60	Qualified for biocompatibility according to ISO13485
			6AWG	7/38/0.254		8.60	
			4AWG	19/37/0.20		10.00	
			2AWG	19/35/0.254		11.70	
1284	1C	PVC	1/0AWG	19/56/0.254	2.00	15.30	Qualified for biocompatibility according to ISO13485
			2/0AWG	19/70/0.254		16.50	

Type	Construction	Insulation	Jacket	Min Conductor	Max Conductor	Temp. °C	Voltage	Flame	Characteristic
2464	Two or more singles	Labeled	Medical PVC	n/a	n/a	80	300 AC	Cable	Qualified for biocompatibility according to ISO13485
2587				90		600 AC			
2517				105		300 AC			