

538AFS Composite - Lock Power, Card Reader, Door Contact, REX Applications



For more Information
please call

1-800-Belden1



General Description:

Access Control Cable, Riser-CMR, 3-18 AWG pairs, 4-16 AWG conductors, 4-18 AWG conductors, 2-18 AWG conductors, All conductors stranded bare copper with polyolefin insulation, Each cable has overall Beldfoil® shield and PVC jacket, Banana Peel® No overall jacket

Usage (Overall)

Suitable Applications: Access Control

Twisted Pair

Physical Characteristics

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material	Dia. (mm)
3	18	7x26	BC - Bare Copper	1.194

Insulation

Insulation Material:

Insulation Material	Wall Thickness (mm)	Dia. (mm)
PP - Polypropylene	0.178	1.499

Twisted Pair Color Code Chart:

Number	Color	Description
1	Black and Red	Card Reader 1
2	White and Green	Card Reader 2
3	Orange and Brown	Card Reader 3

Individual Shield

Outer Shield

Outer Shield Material:

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
24	(7x32)	TC - Tinned Copper

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
F-R PVC - Flame Retardant Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (mm)
6.909

Outer Jacket Ripcord: Yes

Outer Jacket Color Code Chart:

Number	Color	Description
1	Orange	Card Reader

Applicable Specifications and Agency Compliance

Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

CEC/C(UL) Specification: CMR

Flame Test

UL Flame Test: UL1666 Vertical Shaft

Suitability

Suitability - Indoor: Yes

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Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)
171.432

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)
95.149

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
21.655

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/km)
42.981

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Description	Current
Card Reader	4 Amps

Multi Conductor

Physical Characteristics

Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material	Dia. (mm)
2	18	7x26	BC - Bare Copper	1.194
4	18	7x26	BC - Bare Copper	1.194
4	16	19x30	BC - Bare Copper	1.448

Insulation

Insulation Material:

Insulation Material	Wall Thickness (mm)	Dia. (mm)	AWG
PP - Polypropylene	0.178	1.499	18
PP - Polypropylene	0.178	1.803	16

Insulation Color Code Chart:

Number	Color	Description
1	Black	Door Contact 1
2	Red	Door Contact 2
3	Black	Rex/Spare 1
4	Red	Rex/Spare 2
5	White	Rex/Spare 3
6	Green	Rex/Spare 4
7	Black	Lock/Power 1
8	Red	Lock/Power 2
9	White	Lock/Power 3
10	Green	Lock/Power 4

Individual Shield

Outer Shield

Outer Shield Material:

AWG	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)	Description
18	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000	Door Contact
18	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000	Rex/Spare
16	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000	Lock/Power

Outer Shield Drain Wire AWG:

Component	AWG	Stranding	Drain Wire Conductor Material
Door Contact	24	(7x32)	TC - Tinned Copper
Rex/Spare	24	(7x32)	TC - Tinned Copper
Lock/Power	24	(7x32)	TC - Tinned Copper

Outer Jacket

Outer Jacket Diameter:

Component #	Nom. Dia. (mm)
Door Contact	4.115
Rex/Spare	4.724
Lock/Power	5.461

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Outer Jacket Ripcord: Yes

Outer Jacket Color Code Chart:

Number	Color	Description
1	White	Door Contact
2	Blue	Rex/Spare
3	Gray	Lock/Power

Applicable Specifications and Agency Compliance Applicable Standards & Environmental Programs

NEC(UL) Specification: CMR

CEC/C(UL) Specification: CMG

Flame Test

UL Flame Test: UL1666 Vertical Shaft

Suitability

Suitability - Indoor: Yes

Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Description	Freq. (MHz)	Capacitance (pF/m)
Door Contact	1.000	310.055
Rex/Spare	1.000	171.432
Lock Power	1.000	180.455

Nom. Capacitance Conductor to Conductor:

Description	Freq. (MHz)	Capacitance (pF/m)
Door Contact	1.000	172.253
Rex/Spare	1.000	95.149
Lock Power	1.000	100.071

Nom. Conductor DC Resistance:

Description	DCR @ 20°C (Ohm/km)
Door Contact	21.655
Rex/Spare	21.655
Lock Power	13.124

Nominal Outer Shield DC Resistance:

Description	DCR @ 20°C (Ohm/km)
Door Contact	54.793
Rex/Spare	52.168
Lock Power	47.246

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Description	Current
Door Contact	4 Amps
Rex/Spare	4 Amps
Lock Power	5 Amps

Physical Characteristics (Overall)

Conductor

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
Unjacketed

Overall Cable

Overall Nominal Diameter: 13.106 mm

Mechanical Characteristics (Overall)

Operating Temperature Range: 0°C To +75°C

Bulk Cable Weight: 260.435 Kg/Km

Max. Recommended Pulling Tension: 1903.830 N

Min. Bend Radius/Minor Axis: 127 mm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

EU Directive 2011/65/EU (ROHS II): Yes

METRIC MEASUREMENT VERSION

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EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	04/01/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

Applicable Patents:

Country
www.belden.com/p

Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	638AFS

Notes (Overall)

Notes: Cold environment installation: When installing cables that have been stored at ambient temperatures of 32 degrees Fahrenheit (0 degrees Centigrade) or lower, Belden recommends conditioning of the cable for 12 hours at room temperature prior to individual cable leg separation.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
538AFS 0001000	1,000 FT	155.000 LB	NONE	C	3P18+2C18+4C18+4C16 IFS CMR BP

Notes:

C = CRATE REEL PUT-UP.

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