

## 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. (in.)
3	18	7x26	BC - Bare Copper	0.047

##### Insulation

Insulation Material:

Insulation Material	Wall Thickness (in.)	Dia. (in.)
PP - Polypropylene	0.007	0.059

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. (in.)
0.272

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

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

### Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)

52.250

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)

29.000

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

6.600

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

13.100

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. (in.)
2	18	7x26	BC - Bare Copper	0.047
4	18	7x26	BC - Bare Copper	0.047
4	16	19x30	BC - Bare Copper	0.057

##### Insulation

Insulation Material:

Insulation Material	Wall Thickness (in.)	Dia. (in.)	AWG
PP - Polypropylene	0.007	0.059	18
PP - Polypropylene	0.007	0.071	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. (in.)
Door Contact	0.162
Rex/Spare	0.186
Lock/Power	0.215

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

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/ft)
Door Contact	1.000	94.500
Rex/Spare	1.000	52.250
Lock Power	1.000	55.000

Nom. Capacitance Conductor to Conductor:

Description	Freq. (MHz)	Capacitance (pF/ft)
Door Contact	1.000	52.500
Rex/Spare	1.000	29.000
Lock Power	1.000	30.500

Nom. Conductor DC Resistance:

Description	DCR @ 20°C (Ohm/1000 ft)
Door Contact	6.600
Rex/Spare	6.600
Lock Power	4.000

Nominal Outer Shield DC Resistance:

Description	DCR @ 20°C (Ohm/1000 ft)
Door Contact	16.700
Rex/Spare	15.900
Lock Power	14.400

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: 0.516 in.

### Mechanical Characteristics (Overall)

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

Bulk Cable Weight: 175 lbs/1000 ft.

Max. Recommended Pulling Tension: 428 lbs.

Min. Bend Radius/Minor Axis: 5 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

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

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

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
<a href="http://www.belden.com/p">www.belden.com/p</a>

**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.

Revision Number: 1    Revision Date: 01-20-2015

© 2016 Belden, Inc  
All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability. Belden provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein. All sales of Belden products are subject to Belden's standard terms and conditions of sale. Belden believes this product to be in compliance with EU RoHS (Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.