

## 638AFS Composite - Lock Power, Card Reader, Door Contact, REX Applications

**Picture  
Not Available**

For more Information  
please call

1-800-Belden1



### General Description:

Access Control Cable, Plenum-CMP, 3-18 AWG pairs, 4-16 AWG conductors, 4-18 AWG conductors, 2-18 AWG conductors, All conductors stranded bare copper with Flamarrest® insulation, Each cable has overall Beldfoil® shield and Flamarrest® 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 Trade Name	Insulation Material	Dia. (in.)
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.064

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 Trade Name	Outer Jacket Material
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (in.)
0.286

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: CMP

NEC Articles: 800

CEC/C(UL) Specification: CMP

#### Flame Test

UL Flame Test: NFPA 262

#### Suitability

Suitability - Indoor: Yes

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### Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)
72.000

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)
40.000

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
6.600

Ind. Pair Nominal Shield DC Resistance @ 20 Deg. C: 6.900 Ohm/1000 ft

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Description	Current
Card Reader	4 amps @ 25C ambient temperature

### 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 Trade Name	Insulation Material	Dia. (in.)	AWG
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.064	18
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.075	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 Material:

Outer Jacket Trade Name	Outer Jacket Material
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride

Outer Jacket Diameter:

Component #	Nom. Dia. (in.)
Door Contact	0.166
Rex/Spare	0.195

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Lock/Power	0.222
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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: CMP

NEC Articles: 800

CEC/C(UL) Specification: CMP

### Flame Test

UL Flame Test: NFPA 262

### Suitability

Suitability - Indoor: Yes

### Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Description	Freq. (MHz)	Capacitance (pF/ft)
Door Contact	1.000	126.000
Rex/Spare	1.000	76.000
Lock Power	1.000	81.000

Nom. Capacitance Conductor to Conductor:

Description	Freq. (MHz)	Capacitance (pF/ft)
Door Contact	1.000	70.000
Rex/Spare	1.000	42.000
Lock Power	1.000	45.000

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	15.900
Rex/Spare	14.400
Lock Power	14.400

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Description	Current
Door Contact	4 Amps @ 25C ambient temperature
Rex/Spare	4 Amps @ 25C ambient temperature
Lock Power	5 Amps @ 25C ambient temperature

### Physical Characteristics (Overall)

#### Conductor

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
Unjacketed

#### Overall Cable

Overall Nominal Diameter: 0.542 in.

### Mechanical Characteristics (Overall)

Bulk Cable Weight: 175 lbs/1000 ft.

Max. Recommended Pulling Tension: 428 lbs.

Min. Bend Radius/Minor Axis: 5 in.

## 638AFS Composite - Lock Power, Card Reader, Door Contact, REX Applications

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

EU Directive 2011/65/EU (ROHS II):	Yes
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):	Yes
Non-Plenum Number:	538AFS

### 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
638AFS 0001000	1,000 FT	183.000 LB	NATURAL	C	3P18+2C18+4C18+4C16 IFS CMP BP

**Notes:**  
C = CRATE REEL PUT-UP.

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