

## 658AFS Composite - Lock Power, Card Reader, Door Contract, REX Applications



For more Information  
please call

1-800-Belden1



### General Description:

Access Control Cable, Plenum-CMP, 3-22 AWG pairs, 4-18 AWG conductors, 4-22 AWG conductors, 2-22 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. (mm)
3	22	7x30	BC - Bare Copper	0.737

##### Insulation

Insulation Material:

Insulation Trade Name	Insulation Material	Dia. (mm)
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	1.194

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	Solid	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. (mm)
5.486

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

CEC/C(UL) Specification: CMP

#### Flame Test

UL Flame Test: NFPA 262

#### Suitability

Suitability - Indoor: Yes

### Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)

## METRIC MEASUREMENT VERSION

## 658AFS Composite - Lock Power, Card Reader, Door Contract, REX Applications

196.860

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)

108.273

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)

53.480

Ind. Pair Nominal Shield DC Resistance @ 20 Deg. C:

45.606 Ohm/km

Max. Operating Voltage - Non-UL:

Voltage

300 V RMS

Max. Recommended Current:

Description Current

Card Reader 2 amps @ 25C ambient (10C Temperature Rise)

## Multi Conductor

## Physical Characteristics

## Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material	Dia. (mm)
2	22	7x30	BC - Bare Copper	0.737
4	22	7x30	BC - Bare Copper	0.737
4	18	7x26	BC - Bare Copper	1.168

## Insulation

Insulation Material:

Insulation Trade Name	Insulation Material	Dia. (mm)	AWG
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	1.194	22
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	1.676	18

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	Red/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
22	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000	Door Contact
22	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000	Rex/Spare
18	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. (mm)
Door Contact	3.251
Rex/Spare	3.734
Lock/Power	4.902

Outer Jacket Ripcord:

Yes

Outer Jacket Color Code Chart:

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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

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/m)
Door Contact	0.001	324.819
Rex/Spare	0.001	193.579
Lock Power	0.001	249.356

#### Nom. Capacitance Conductor to Conductor:

Description	Freq. (MHz)	Capacitance (pF/m)
Door Contact	1.000	180.455
Rex/Spare	1.000	108.273
Lock Power	1.000	131.240

#### Nom. Conductor DC Resistance:

Description	DCR @ 20°C (Ohm/km)
Door Contact	53.808
Rex/Spare	53.808
Lock Power	21.327

#### Nom. Inner Shield DC Resistance:

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

#### Max. Operating Voltage - UL:

Voltage
300 V RMS

#### Max. Recommended Current:

Description	Current
Door Contact	2.2 Amps @ 25C ambient (10C temperature rise)
Rex/Spare	2.2 Amps @ 25C ambient (10C temperature rise)
Lock Power	4.0 Amps @ 25C ambient (10C temperature rise)

### Physical Characteristics (Overall)

#### Conductor

#### Outer Jacket

##### Outer Jacket Material:

Outer Jacket Material
Unjacketed

#### Overall Cable

Overall Nominal Diameter: 10.668 mm

### Mechanical Characteristics (Overall)

Bulk Cable Weight: 148.820 Kg/Km

Max. Recommended Pulling Tension: 889.640 N

Min. Bend Radius/Minor Axis: 106.680 mm

### 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

## METRIC MEASUREMENT VERSION

## 658AFS Composite - Lock Power, Card Reader, Door Contract, REX Applications

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

## Suitability

Suitability - Indoor:	Yes
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## Plenum/Non-Plenum

Plenum (Y/N):	Yes
Non-Plenum Number:	558AFS

## 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
658AFS 0001000	1,000 FT	114.000 LB	NONE	C	3P22+2C22+4C22+4C18 IFS CMP BP
658AFS 000500	500 FT	55.000 LB	NONE	C	3P22+2C22+4C22+4C18 IFS CMP BP

## Notes:

C = CRATE REEL PUT-UP.

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