

**658GFS 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, 6-22 AWG pairs, 4-18 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) |
|---------|-----|-----------|--------------------|-----------|
| 6       | 22  | 7x30      | BC - Bare Copper   | 0.762     |

**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 Pair 1 |
| 2      | White and Green  | Card Reader 1 Pair 2 |
| 3      | Orange and Brown | Card Reader 1 Pair 3 |
| 4      | Black and Red    | Card Reader 2 Pair 1 |
| 5      | White and Green  | Card Reader 2 Pair 2 |
| 6      | Orange and Brown | Card Reader 2 Pair 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. (mm) |
|----------------|
| 5.537          |

Outer Jacket Ripcord: Yes

Outer Jacket Color Code Chart:

| Number | Color  | Description   |
|--------|--------|---------------|
| 1      | Yellow | Card Reader 1 |
| 2      | Orange | Card Reader 2 |

**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

## METRIC MEASUREMENT VERSION

## 658GFS Composite - Lock Power, Card Reader, Door Contact, REX Applications

## Suitability

Suitability - Indoor: Yes

## Electrical Characteristics

Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)

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 - Other:

Voltage

300 V RMS

Max. Recommended Current:

Description Current

Card Reader 2

## Multi Conductor

## Physical Characteristics

## Conductor

AWG:

| # Conductors | AWG | Stranding | Conductor Material | Dia. (mm) |
|--------------|-----|-----------|--------------------|-----------|
| 2            | 22  | 7x30      | BC - Bare Copper   | 0.762     |
| 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 | Lock/Power 1   |
| 4      | Red   | Lock/Power 2   |
| 5      | White | Lock/Power 3   |
| 6      | 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 |
| 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            |
| 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 | 3.607          |
| Lock/Power   | 4.902          |

Outer Jacket Ripcord: Yes

Outer Jacket Color Code Chart:

| Number | Color | Description  |
|--------|-------|--------------|
| 1      | White | Door Contact |

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|   |      |            |
|---|------|------------|
| 2 | 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       | 324.819            |
| Lock/Power   | 1.000       | 236.232            |

**Nom. Capacitance Conductor to Conductor:**

| Description  | Freq. (MHz) | Capacitance (pF/m) |
|--------------|-------------|--------------------|
| Door Contact | 1.000       | 180.455            |
| Lock Power   | 1.000       | 131.240            |

**Nom. Conductor DC Resistance:**

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

**Nom. Inner Shield DC Resistance:**

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

**Max. Operating Voltage - Other:**

| Voltage   |
|-----------|
| 300 V RMS |

**Max. Recommended Current:**

| Description  | Current  |
|--------------|----------|
| Door Contact | 2.2 Amps |
| Lock/Power   | 4.0 Amps |

**Physical Characteristics (Overall)****Conductor****Outer Jacket****Outer Jacket Material:**

| Outer Jacket Material |
|-----------------------|
| Unjacketed            |

**Overall Cable**

|                           |           |
|---------------------------|-----------|
| Overall Nominal Diameter: | 11.582 mm |
|---------------------------|-----------|

**Mechanical Characteristics (Overall)**

|                                   |               |
|-----------------------------------|---------------|
| Operating Temperature Range:      | 0°C To +75°C  |
| Bulk Cable Weight:                | 141.379 Kg/Km |
| Max. Recommended Pulling Tension: | 1112.050 N    |
| Min. Bend Radius/Minor Axis:      | 120.650 mm    |

**Applicable Specifications and Agency Compliance (Overall)****Applicable Standards & Environmental Programs**

|                                       |            |
|---------------------------------------|------------|
| NEC/(UL) Specification:               | CMP        |
| CEC/C(UL) Specification:              | CMP        |
| 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): | 04/02/2007 |
| EU Directive 2002/96/EC (WEEE):       | Yes        |
| EU Directive 2003/11/EC (BFR):        | Yes        |

## METRIC MEASUREMENT VERSION

### 658GFS Composite - Lock Power, Card Reader, Door Contact, REX Applications

|                                   |     |
|-----------------------------------|-----|
| CA Prop 65 (CJ for Wire & Cable): | Yes |
| MIL Order #39 (China RoHS):       | Yes |

#### Flame Test

|                 |                                         |
|-----------------|-----------------------------------------|
| UL Flame Test:  | NFPA 262 Plenum Flame Test (UL910)(FT6) |
| CSA Flame Test: | FT6                                     |

#### Suitability

|                       |     |
|-----------------------|-----|
| Suitability - Indoor: | Yes |
|-----------------------|-----|

#### Plenum/Non-Plenum

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

#### 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. Banana Peel® US PATENT 7049523.

#### Put Ups and Colors:

| Item #         | Putup    | Ship Weight | Color | Notes | Item Desc                    |
|----------------|----------|-------------|-------|-------|------------------------------|
| 658GFS 0001000 | 1,000 FT | 114.000 LB  | NONE  | C     | 6P22+2C22+4C18 IFS CMP BPEEL |
| 658GFS 000500  | 500 FT   | 57.500 LB   | NONE  | C     | 6P22+2C22+4C18 IFS CMP BPEEL |

#### Notes:

C = CRATE REEL PUT-UP.

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