

NEW

Automotive high speed signal shield connector (In-line type)

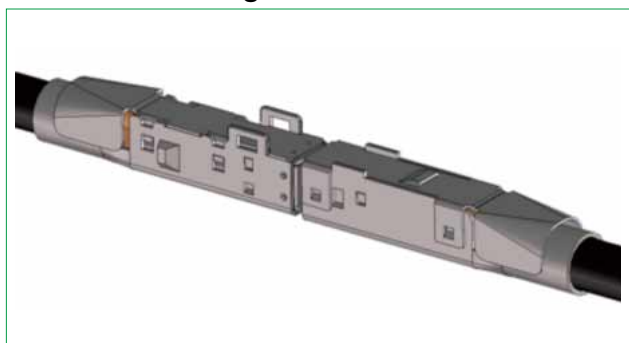
GT32F Series



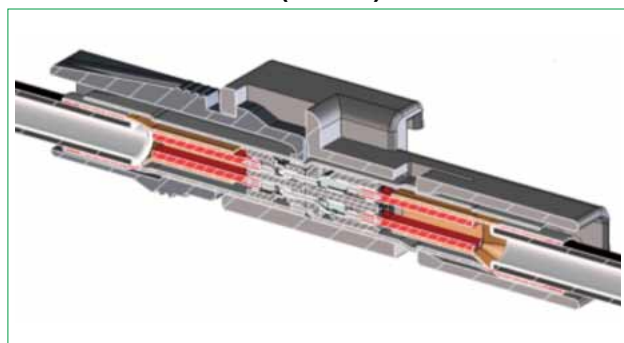
■ Features

1. 1.5mm pitch, two rows
2. In-line connector
3. Number of contacts : 4
4. Supports high speed differential transmissions
Transmits signals at a speed equivalent to 3Gbps per pair.
The impedance has been adjusted in accordance with the termination method.
5. Higher EMI performance through a fully-shielded design
The fully-shielded design also offers noise resistance.
6. Satisfies rigorous test conditions for automotive devices
7. A robust lock provides a tactile click
8. Crimping termination
Compatible with 24 to 28AWG.

◆ Full-shield design when mated



◆ Internal structure (mated)



■ High speed transmission property

● Differential impedance (equivalent to 3.4Gbps)

RISE TIME : 200ps 10%-90%
Impedance standard : $100\Omega \pm 15\%$

Reference standard : HDMI 1.4a Type A
TMDS Signals Time Domain Impedance

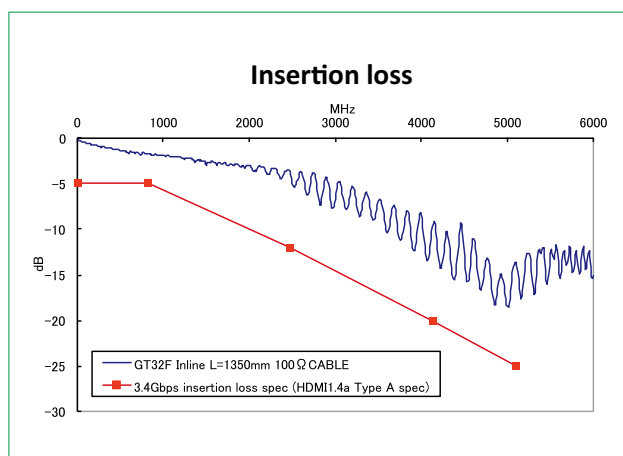
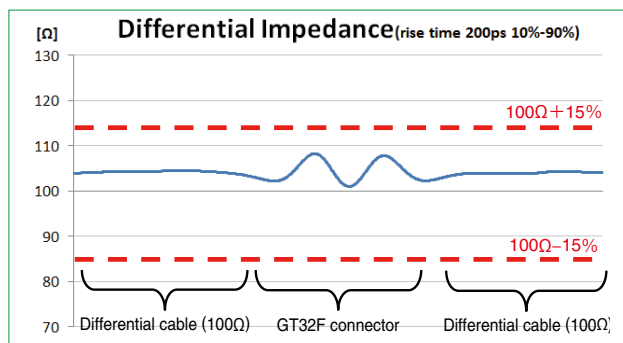
Note : Although the above standard is a transmission standard for 10.2Gbps/3pairs, values have been converted into those per a pair to describe as a reference standard for those equivalent to 3.4Gbps/pair.

● Insertion loss

Cable length : 1350mm
Including a GT32F In-line connector.

Reference standard : HDMI 1.4a Type A
Cate.2 "Sufficient Condition" 5Db Attenuation

Note : Although the above standard is a transmission standard for 10.2Gbps/3pairs, values have been converted into those per a pair to describe as a reference standard for those equivalent to 3.4Gbps/pair.



Product Specifications

| | | |
|---------|---|---|
| Ratings | Current : 1A | Voltage : 30V AC |
| | Operating temperature range : -40°C to +105°C | Storage temperature range : -40°C to +105°C |

| Items | Specifications | Conditions |
|--|--|--|
| 1. Contact resistance | Signal : 30mΩ max, External : 60mΩ max | Measured at 1A DC. |
| 2. Insulation resistance | 100MΩ min | Measured at 500V DC. |
| 3. Withstanding voltage | There shall be no flashover or dielectric breakdown. | Apply 500V AC for one minute. |
| 4. Vibration resistance | ① There shall be no electrical discontinuity lasting for a minimum of 10μs. ② Contact resistance : Signal : 60mΩ max External : 120mΩ max ③ There shall be no damage, cracks or loosened parts. | Frequency : 20 to 200Hz, acceleration : 43.1m/s ² , 3 directions, 3 cycles each. |
| 5. Humidity resistance in steady state | ① Contact resistance : Signal : 60mΩ max External : 120mΩ max ② Insulation resistance : 100MΩ min ③ There shall be no damage, cracks or loosened parts. | Temperature : 60°C, relative humidity : 90 to 95%, leave 500 hours. |
| 6. Thermal shock | ① Contact resistance : Signal : 60mΩ max External : 120mΩ max ② Insulation resistance : 100MΩ min ③ There shall be no damage, cracks or loosened parts. | Temperature -40 → Room temperature → 85°C → Room temperature Time : 30 → 5 → 30 → 5 minutes 1000 cycles. |
| 7. Repeated action | ① Contact resistance : Signal : 60mΩ max External : 120mΩ max ② There shall be no damage, cracks or loosened parts. | 30 mating cycles. |

Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

● Female connector crimp contact, Male connector crimp contact

GT 32 – 2428 SCF

① ② ③ ④

| | | | |
|---------------|---|----------------------------------|--|
| ① Series Name | GT | ③ Applicable wire size | 2428 : 24 to 28AWG |
| ② Series No. | 32 (used for Female connector crimp contact) 32A (used for Male connector crimp contact) | ④ Form/Packaging /Packaging type | SCF : Female connector crimp contact/reel packaging products PCF : Male connector crimp contact/reel packaging products |

● Female connector insulation case, Male connector insulation case

GT 32F – 4 D S – 1.5 C

① ② ③ ④ ⑤ ⑥ ⑦

| | | | |
|----------------------|---------------|------------------|--|
| ① Series Name | GT | ⑤ Connector type | S : Female connector P : Male connector |
| ② Series No. | 32F | ⑥ Contact pitch | 1.5 : 1.5mm pitch |
| ③ Number of contacts | 4 | ⑦ Part type | C : Insulation case |
| ④ Number of columns | D : 2 columns | | |

● Female connector shell, Male connector shell

● Female connector shield cover, Male connector shield cover

● Female connector housing, Male connector housing

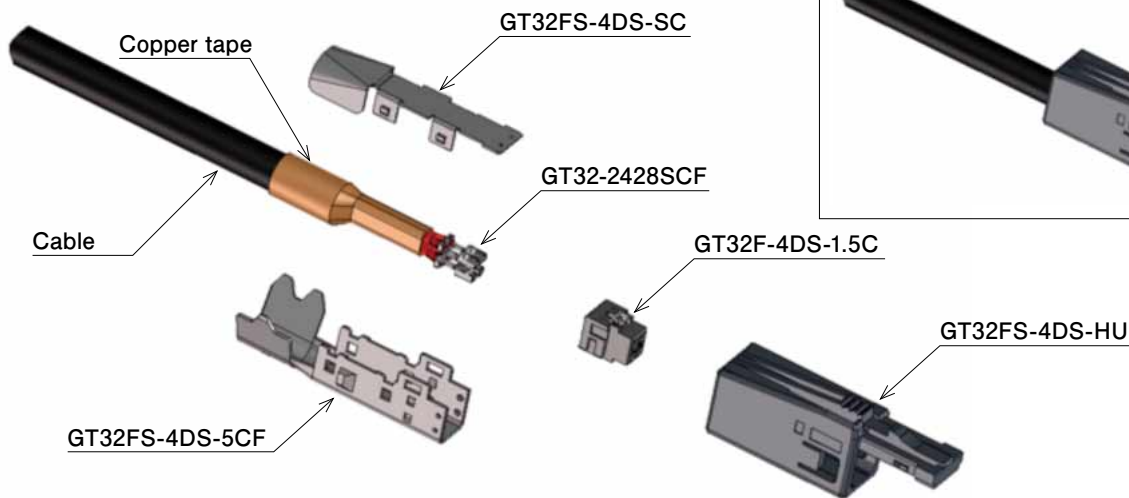
GT 32F S – 4 D S – 5CF

① ② ③ ④ ⑤ ⑥ ⑦

| | | | |
|----------------------|--------------|---------------------|---|
| ① Series Name | GT | ⑤ Number of columns | D : 2 rows |
| ② Series No. | 32F | ⑥ Connector type | S : Female connector P : Male connector |
| ③ Shape | S : Straight | ⑦ Part type | 5CF : φ4.6 to 5.0 sheath crimp contact SC : Shield cover HU : Housing |
| ④ Number of contacts | 4 | | |

Product configurations

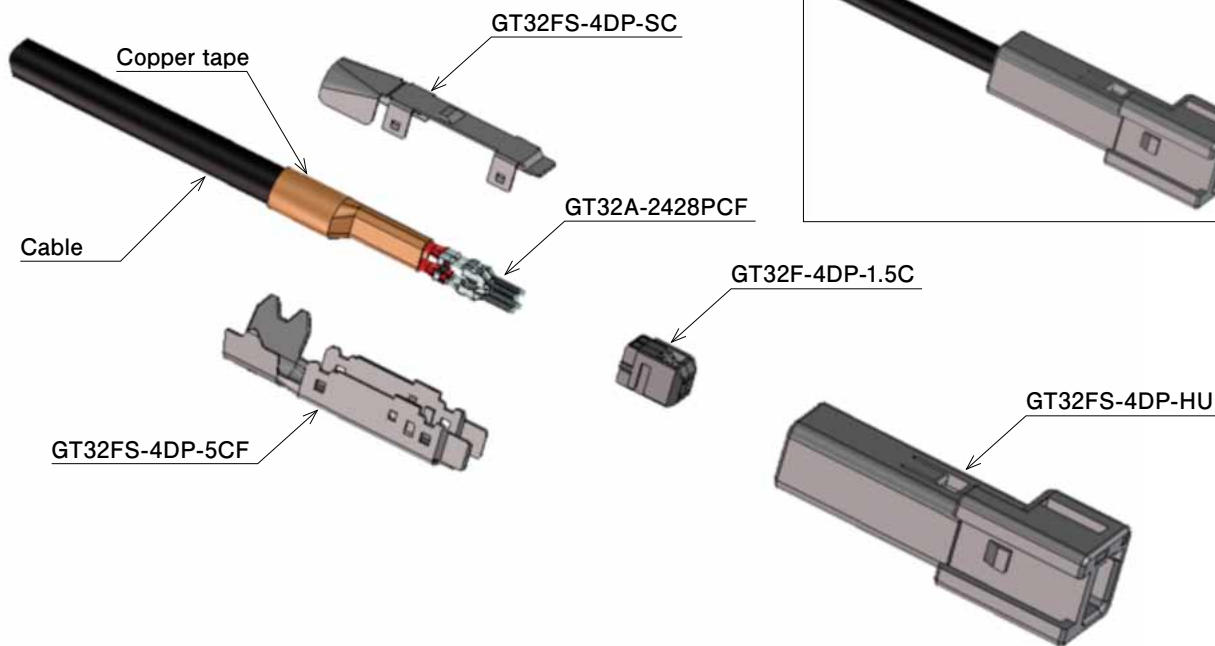
Female connector



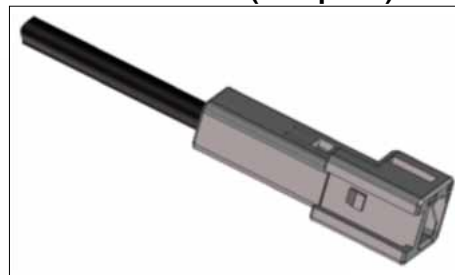
Female connector (complete)



Male connector



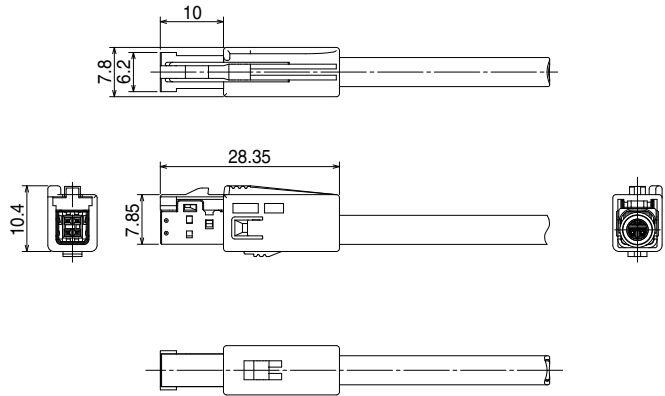
Male connector (complete)



GT32 Series Mating table

| Female connector | | Male connector | |
|--|----------------------------|------------------------------------|----------------------------|
| GT32F 4 cores Straight plug connector | Configuration product name | GT32F 4 cores In-line connector | Configuration product name |
| | GT32-2428SCF | | GT32A-2428PCF |
| | GT32F-4DS-1.5C | | GT32F-4DP-1.5C |
| | GT32FS-4DS-5CF | | GT32FS-4DP-5CF |
| | GT32FS-4DS-SC | | GT32FS-4DP-SC |
| | GT32FS-4DS-HU | | GT32FS-4DP-HU |

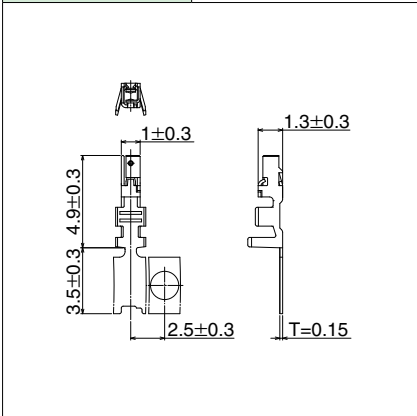
■ 4-core straight plug connector (Female connector)



This product includes the following parts.

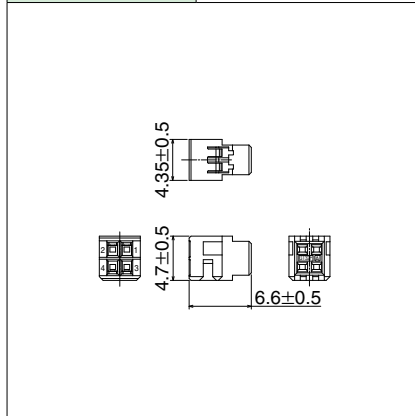
Crimp contact

| | |
|------------------------|-----------------|
| Part No. | GT32-2428SCF |
| HRS No. | 782-0007-8 00 |
| Core cable size | 24 to 28AWG |
| Material/finish, color | Copper alloy |
| Sales unit | 10,000 pcs/reel |
| RoHS | ○ |



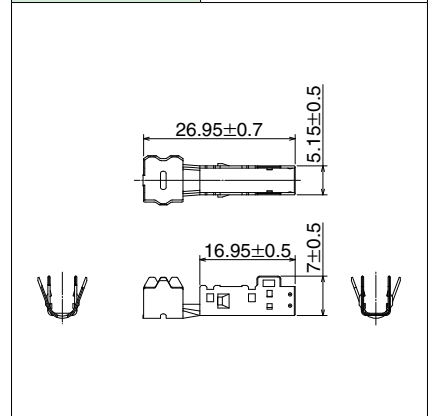
Insulation case

| | |
|------------------------|----------------|
| Part No. | GT32F-4DS-1.5C |
| HRS No. | 782-0051-0 00 |
| Material/finish, color | PBT/light gray |
| Sales unit | 1 piece |
| RoHS | ○ |



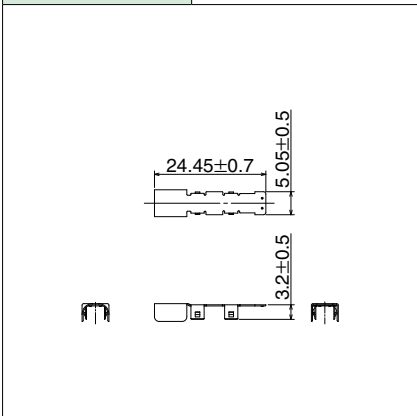
Shell

| | |
|------------------------|---------------------------|
| Part No. | GT32FS-4DS-5CF |
| HRS No. | 782-0052-2 00 |
| Cable size | φ4.6~5.0mm |
| Material/finish, color | Copper alloy, tin plating |
| Sales unit | 1 piece |
| RoHS | ○ |



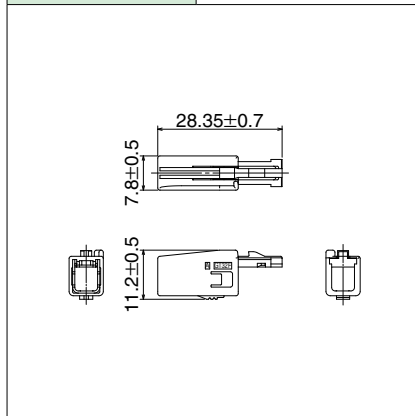
Shield cover

| | |
|------------------------|---------------------------|
| Part No. | GT32FS-4DS-SC |
| HRS No. | 782-0053-5 00 |
| Material/finish, color | Copper alloy, tin plating |
| Sales unit | 1 piece |
| RoHS | ○ |

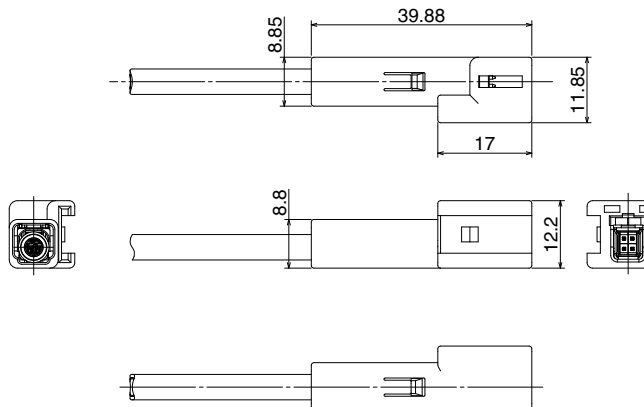


Housing

| | |
|------------------------|---------------|
| Part No. | GT32FS-4DS-HU |
| HRS No. | 782-0054-8 00 |
| Material/finish, color | PBT/dark gray |
| Sales unit | 1 piece |
| RoHS | ○ |



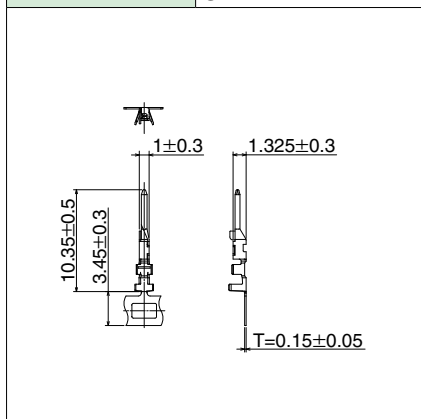
■ 4-core In-line connector (Male connector)



This product includes the following parts.

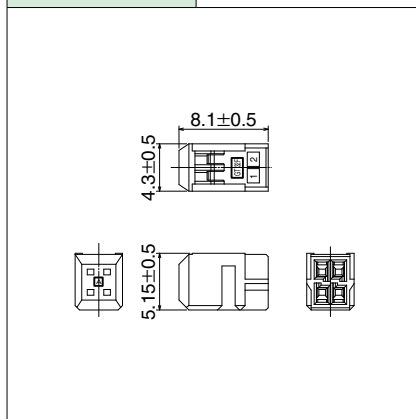
Crimp contact

| | |
|------------------------|-----------------|
| Part No. | GT32A-2428PCF |
| HRS No. | 782-0050-7 00 |
| Core cable size | 24 to 28AWG |
| Material/finish, color | Copper alloy |
| Sales unit | 10,000 pcs/reel |
| RoHS | ○ |



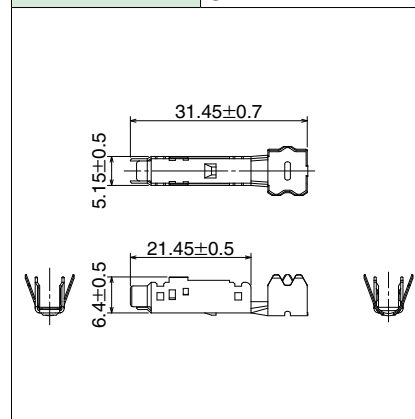
Insulation case

| | |
|------------------------|----------------|
| Part No. | GT32F-4DP-1.5C |
| HRS No. | 782-0046-0 00 |
| Material/finish, color | PBT/light gray |
| Sales unit | 1 piece |
| RoHS | ○ |



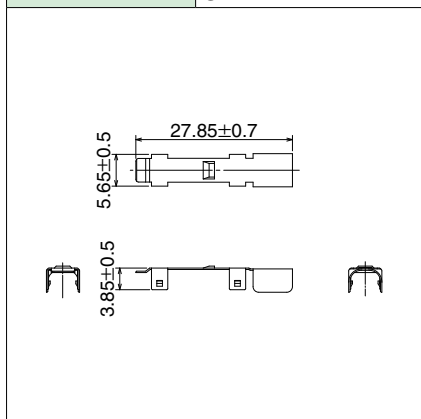
Shell

| | |
|------------------------|---------------------------|
| Part No. | GT32FS-4DP-5CF |
| HRS No. | 782-0047-2 00 |
| Cable size | φ4.6~5.0mm |
| Material/finish, color | Copper alloy, tin plating |
| Sales unit | 1 piece |
| RoHS | ○ |



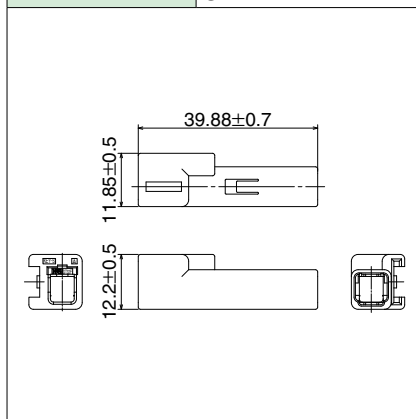
Shield cover

| | |
|------------------------|---------------------------|
| Part No. | GT32FS-4DP-SC |
| HRS No. | 782-0048-5 00 |
| Material/finish, color | Copper alloy, tin plating |
| Sales unit | 1 piece |
| RoHS | ○ |



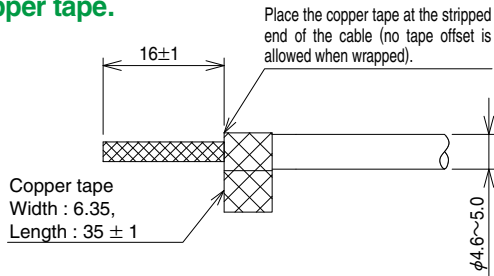
Housing

| | |
|------------------------|---------------|
| Part No. | GT32FS-4DP-HU |
| HRS No. | 782-0049-8 00 |
| Material/finish, color | PBT/dark gray |
| Sales unit | 1 piece |
| RoHS | ○ |

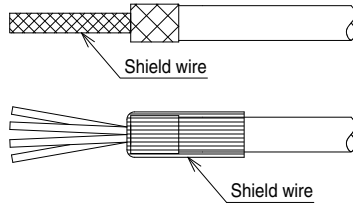


◆GT32F Series Female Connector Termination Method

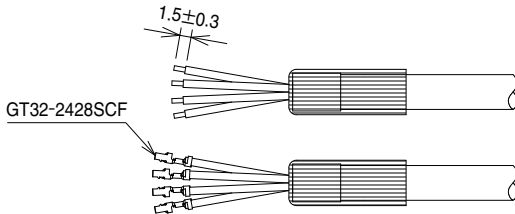
- ① Strip the external sheath and wrap with copper tape.



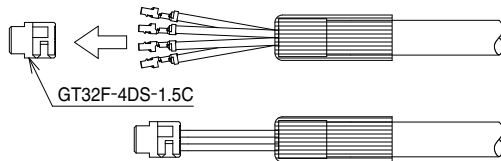
- ② Fold the shield wire.



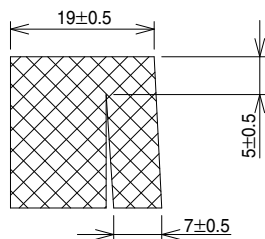
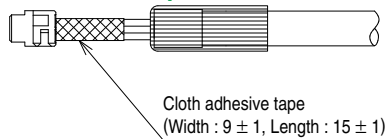
- ③ Strip the core cable to crimp a GT32-2428SCF contact.



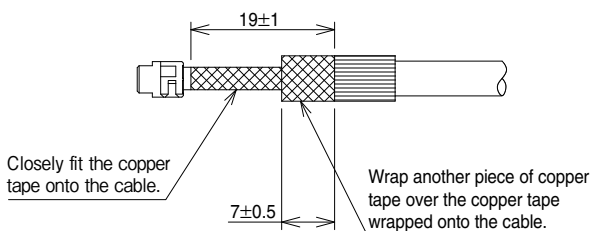
- ④ After crimped, insert the GT32-2428SCF contact into GT32F-4DS-1.5C.



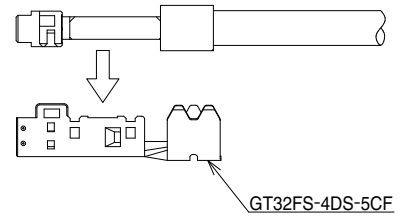
- ⑤ Wrap a piece of cloth adhesive tape onto the end of the GT32F-4DS-1.5C, and then cut the copper tape as shown below and wrap it around the cable.



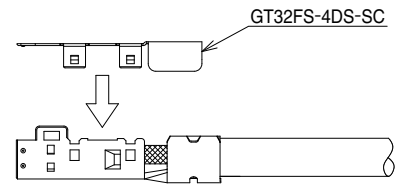
■ Shield adhesive tape cut dimension



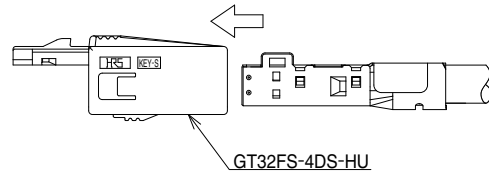
- ⑥ Cut an excess shield wire from the copper tape, and then insert the cable into GT32FS-4DS-5CF.



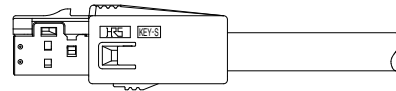
- ⑦ Crimp the GT32FS-4DS-5CF, and then cover it with GT32FS-4DS-SC.



- ⑧ Assemble GT32FS-4DS-HU.



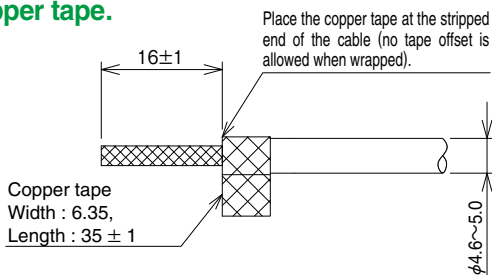
- ⑨ Completed assembly



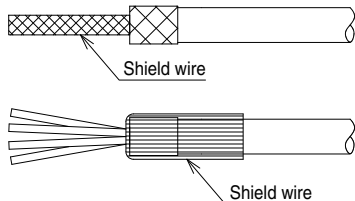
- Note 1 : The harness method may differ depending on the configuration and material of the cable.
- Note 2 : The crimp height must be set per cable. Follow the crimping condition table.

◆GT32F Series Male Connector Termination Method

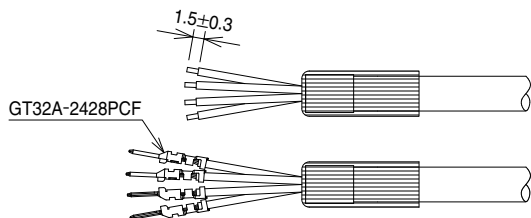
① Strip the external sheath and wrap with copper tape.



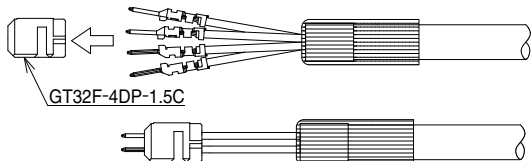
② Fold the shield wire.



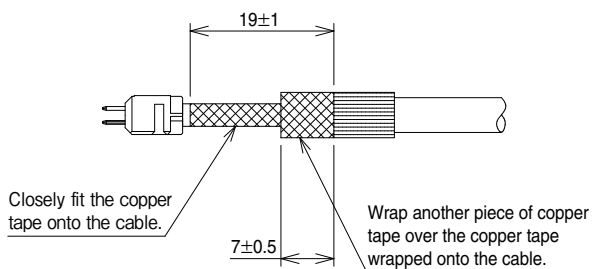
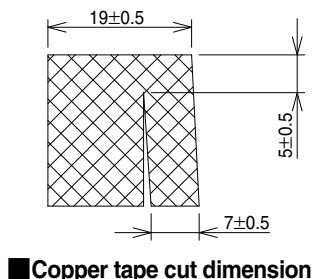
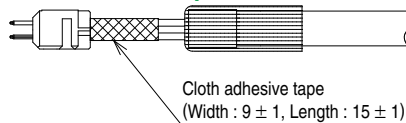
③ Strip the core cable to crimp a GT32A-2428PCF contact.



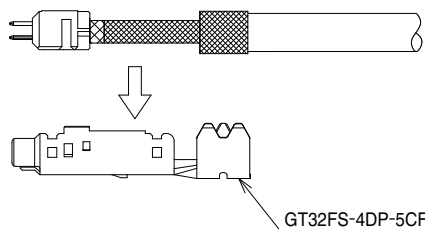
④ After crimped, insert the GT32A-2428PCF contact into GT32F-4DP-1.5C.



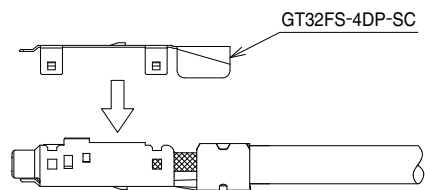
⑤ Wrap a piece of cloth adhesive tape onto the end of the GT32F-4DP-1.5C, and then cut the copper tape as shown below and wrap it around the cable.



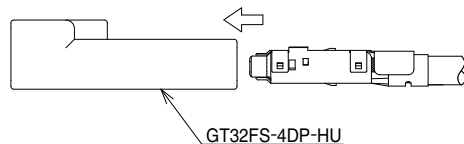
⑥ Cut an excess shield wire from the copper tape, and then insert the cable into GT32FS-4DP-5CF.



⑦ Crimp the GT32FS-4DP-5CF, and then cover it with GT32FS-4DP-SC.



⑧ Assemble GT32FS-4DP-HU.



⑨ Completed assembly



Note 1 : The harness method may differ depending on the configuration and material of the cable.
 Note 2 : The crimp height must be set per cable. Follow the crimping condition table.

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◆Crimping tools

User manuals are available. Please ask your Hirose Electric account representative.

●Automatic Crimping Machine



Specifications

| Item | Specification | Remarks |
|-------------------|----------------------------|---------------|
| Press capacity | 1.5Ton | |
| Stroke | 30mm | |
| Number of strokes | 200spm (50Hz) | 240spm (60Hz) |
| Weight | 75kg | |
| Motor | 0.2kw | AC 100V |
| Crimping speed | 2000 to 4000 pcs. per hour | |

Part No. CM-105C

Note : Please refer to the table below for applicator product numbers.

●Applicator (for use with the automatic crimping machine)

| Terminal Part No. | Terminal HRS No. | Tool Part No. | Tool HRS No. |
|-------------------|------------------|-------------------|-------------------|
| GT32-2428SCF | 782-0007-8 00 | AP105-GT32-2428S | 901-5223-2 00 |
| GT32A-2428PCF | 782-0050-7 00 | Under development | Under development |

Note 1 : Crimp heights may differ depending on the cable specification, so please consult a HRS representative for assistance.

Note 2 : Before purchasing Hirose tooling, please make sure that your selected cable will work with the Hirose applicator.

Note 3 : Cables that are different from those specified by Hirose may not be suitable and may require modification to the applicator to obtain a proper crimp.

●Hand press



Part No. HOS-7

●Crimp tool for outer shield (Module for HOS-7)

| Terminal Part No. | Terminal HRS No. | Tool Part No. | Tool HRS No. |
|-------------------|------------------|-------------------|-------------------|
| GT32FS-4DS-5CF | 782-0052-2 00 | Under development | Under development |
| GT32FS-4DP-5CF | 782-0047-2 00 | Under development | Under development |

Note 1 : (01) is set unit (HOS-7 and Crimp tool).

Note 2 : Crimp height sets for each cable. Please ask HRS sales in detail. Take time to define new crimp height.

Note 3 : Please ask Crimp height for your cable when you use HRS tool.

Note 4 : Applicable tool may be changed by specic cable.



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