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# HARTING Selection Guide

## Han<sup>®</sup> 1A Connectors











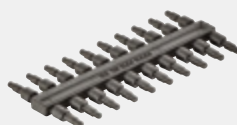





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|                           | 2+PE Screw                   | 3+PE Screw                   | 3+PE Shielded                            |
|---------------------------|------------------------------|------------------------------|--|
|                           |                              |                              |  |
| Power                     | 2+PE                         | 3+PE                         | 3+PE + shielding                         |
| Contacts / wires          | 2+PE                         | 3+PE                         | 3+PE + shielding                         |
| Electrical data           | 10 A / 230/400 V             | 10 A / 230/400 V             | 10 A / 400 V                             |
| Termination               | Screw                        | Screw                        | Crimp                                    |
| Conductor cross-section   | 0.75 ... 1.5 mm <sup>2</sup> | 0.75 ... 1.5 mm <sup>2</sup> | 0.14 ... 2.5 mm <sup>2</sup>             |
| Male with snap-in latch   | 09 10 002 2601               | 09 10 003 2601               | 09 10 003 3001                           |
| Female with snap-in latch | 09 10 002 2701               | 09 10 003 2701               | 09 10 003 3101                           |
| Male for locking lever    | 09 10 002 2606               | 09 10 003 2606               | 09 10 003 3006                           |
| Female for locking lever  | 09 10 002 2706               | 09 10 003 2706               | 09 10 003 3106                           |
| Single wire seal*         | 09 10 004 9900               | 09 10 004 9900               |  |
| Note                      | Insert incl. contacts        | Insert incl. contacts        | Han® D contacts to be ordered separately |

|                           | 3+PE Crimp                               | 5+PE Crimp                               | 12 Crimp  |
|---------------------------|--|--|---|
|                           |  |  |   |
| Power and Signal          | 3+PE                                     | 5+PE                                     | 12  |
| Contacts / wires          | 3+PE                                     | 5+PE                                     | 12  |
| Electrical data           | 16 A / 400 V                             | 10 A / 400 V                             | 6.5 A / 50 V  |
| Termination               | Crimp                                    | Crimp                                    | Crimp   |
| Conductor cross-section   | 0.14 ... 4 mm <sup>2</sup>               | 0.14 ... 2.5 mm <sup>2</sup>             | 0.09 ... 0.52 mm <sup>2</sup>   |
| Male with snap-in latch   | 09 10 003 3201                           | 09 10 005 3001                           | 09 10 012 3001  |
| Female with snap-in latch | 09 10 003 3301                           | 09 10 005 3101                           | 09 10 012 3101  |
| Male for locking lever    | 09 10 003 3206                           | 09 10 005 3006                           | 09 10 012 3006  |
| Female for locking lever  | 09 10 003 3306                           | 09 10 005 3106                           | 09 10 012 3106  |
| Single wire seal*         | 09 10 004 9901                           | 09 10 006 9900                           | 09 10 012 9900  |
| Note                      | Han E® contacts to be ordered separately | Han D® contacts to be ordered separately | Han® D-Sub contacts to be ordered separately. For insertion/removal use tool part no. 09 99 000 0809. |

|                         | Cat. 5                                  | Cat. 6 <sub>A</sub>                             | Cat. 5                                  | Cat. 6 <sub>A</sub>                             |
|-------------------------|---|---|---|---|
|                         |   |   |   |   |
| Data                    | With snap-in latch                      | With snap-in latch                              | For locking lever                       | For locking lever                               |
| Contacts / wires        | 4                                       | 8   | 4                                       | 8   |
| Electrical data         | 4 A / 48 VAC/60 VDC                     | 0.5 A / 48 V                                    | 4 A / 48 VAC/60 VDC                     | 0.5 A / 48 V                                    |
| Data transmission rate  | 100 Mbit/s                              | 10 Gbit/s                                       | 100 Mbit/s                              | 10 Gbit/s                                       |
| Termination             | Crimp                                   | Crimp   | Crimp                                   | Crimp   |
| Conductor cross-section | 0.13 ... 0.82 mm <sup>2</sup>           | 0.08 ... 0.25 mm <sup>2</sup>                   | 0.13 ... 0.82 mm <sup>2</sup>           | 0.08 ... 0.25 mm <sup>2</sup>                   |
| Male insert             | 09 10 004 3001                          | 09 10 008 3001                                  | 09 10 004 3006                          | 09 10 008 3006                                  |
| Female insert           | 09 10 004 3101                          | 09 10 008 3101                                  | 09 10 004 3106                          | 09 10 008 3106                                  |
| Advice                  | D-Sub contacts to be ordered separately | har-speed M12 contacts to be ordered separately | D-Sub contacts to be ordered separately | har-speed M12 contacts to be ordered separately |

\* Single wire seal for IP 65 protection is not required if a cable adapter (09 10 000 0400) or a bulkhead mounted housing (09 10 000 0300 / 09 10 000 0800) is used

|  |                     |   |   |   |   |
|--|---------------------|---|---|---|---|
| Housing components   |                     | Bulkhead mounted housing, straight  | Bulkhead mounted housing, angled  | Cable adapter   | Strain relief   |
|  |                     |    |    |   |  |
|  | Cable diameter      |   |   | 5.7 - 10 mm   |   |
|  | IP protection class | IP65  | IP65  | IP65  | IP20  |
| Part number  | 09 10 000 0300      | 09 10 000 0800  | 09 10 000 0400  | 09 10 000 5300  |   |
| Accessories  |                     | Protection cover  | Protection cover  | Protection cover  |   |
|  |                     |    |    |   |   |
|  |                     | for male insert   | for male insert   | for male insert   |   |
|  | IP protection class | IP65  | IP65  | IP65  |   |
|  | Part number         | 09 10 000 5400  | 09 10 000 5401  | 09 10 000 5402  |   |
|  | Suitable for        | 09 10 012 300X  | 09 10 003 300X<br>09 10 003 320X<br>09 10 005 300X                                  | 09 10 002 260X<br>09 10 003 260X<br>09 10 004 300X<br>09 10 008 300X  |   |
| Accessories  |                     | Protection cover  | Protection cover  | Protection cover  | Fixing cord   |
|  |                     |  |  |   |   |
|  |                     | for female insert   | for female insert   | for female insert   | for protection cover (male/female)  |
|  | IP protection class | IP65  | IP65  | IP65  |   |
|  | Part number         | 09 10 000 5500  | 09 10 000 5501  | 09 10 000 5502  | 09 10 000 9959  |
|  | Suitable for        | 09 10 012 310X  | 09 10 003 310X<br>09 10 003 330X<br>09 10 005 310X                                  | 09 10 002 270X<br>09 10 003 270X<br>09 10 004 310X<br>09 10 008 310X  |   |
| <b>X = 1 Insert with snap-in latch, X = 6 Insert for locking lever</b> |                     |   |   |   |   |
| Accessories  |                     | Dummy plugs   | Locking lever   | Colour coding elements  |   |
|  |                     |  |  |   |   |
|  |                     |   | Stainless steel   |   |   |
|  | Part number         | 09 10 000 9909  | 09 10 000 5200  | 09 10 000 9901 (red)<br>09 10 000 9902 (blue)<br>09 10 000 9903 (green)<br>09 10 000 9904 (yellow)<br>09 10 000 9905 (violet) |   |
|  |                     |   |   |   |   |
| Accessories  |                     | Mounting frame  | DIN rail adapter  | DIN rail adapter  |   |
|  |                     |  |  |   |   |
|  |                     | with strain relief  | without strain relief   |   |   |
| Part number  | 09 10 000 9908      | 09 10 000 9911  | 09 10 000 9912  |   |   |

# Crimp Contacts and Crimping Tools



|                           |  |                |   |   |  |                                      |                                  |  |
|---------------------------|--|----------------|---|---|--|--------------------------------------|----------------------------------|--|
| 6.5 A – D-Sub/0.5A/4A-M12 | Cross-section / wire gauge<br>(mm <sup>2</sup> ) (AWG) |                | Har-speed M12 male<br>(gold plated)           | Har-speed M12 female<br>(gold plated)                                 | D-Sub male<br>(gold plated)  | D-Sub female<br>(gold plated)        |                                  |  |
|                           |  |                |   |   |  |                                      |                                  |  |
|                           | 0.13 - 0.25  | 26 - 23        | 21 01 100 9019                                | 21 01 100 9021  |  |                                      |                                  |  |
|                           | 0.09 - 0.25  | 28 - 24        | 21 01 100 9014                                | 21 01 100 9023  | 09 67 000 7576   | 09 67 000 7476                       |                                  |  |
|                           | 0.13 - 0.33  | 26 - 22        |   |   | 09 67 000 5576   | 09 67 000 5476                       |                                  |  |
|                           | 0.25 - 0.52  | 24 - 20        |   |   | 09 67 000 8576   | 09 67 000 8476                       |                                  |  |
|                           | 0.33 - 0.82  | 22 - 18        |   |   | 09 67 000 3576   | 09 67 000 3476                       |                                  |  |
| 10 A – Han D®             | Cross-section / wire gauge<br>(mm <sup>2</sup> ) (AWG) |                | male<br>(silver plated)                       | female<br>(silver plated)   | male<br>(gold plated)  | female<br>(gold plated)              |                                  |  |
|                           |  |                |   |   |  |                                      |                                  |  |
|                           | 0.14 - 0.37  | 26 - 22        | 09 15 000 6104                                | 09 15 000 6204  | 09 15 000 6124   | 09 15 000 6224                       |                                  |  |
|                           | 0.5  | 20             | 09 15 000 6103                                | 09 15 000 6203  | 09 15 000 6123   | 09 15 000 6223                       |                                  |  |
|                           | 0.75   | 18             | 09 15 000 6105                                | 09 15 000 6205  | 09 15 000 6125   | 09 15 000 6225                       |                                  |  |
|                           | 1  | 18             | 09 15 000 6102                                | 09 15 000 6202  | 09 15 000 6122   | 09 15 000 6222                       |                                  |  |
|                           | 1.5  | 16             | 09 15 000 6101                                | 09 15 000 6201  | 09 15 000 6121   | 09 15 000 6221                       |                                  |  |
|                           | 2.5  | 14             | 09 15 000 6106                                | 09 15 000 6206  | 09 15 000 6126   | 09 15 000 6226                       |                                  |  |
| 16 A – Han E®             | Cross-section / wire gauge<br>(mm <sup>2</sup> ) (AWG) |                | male<br>(silver plated)                       | female<br>(silver plated)   | male<br>(gold plated)  | female<br>(gold plated)              |                                  |  |
|                           |  |                |   |   |  |                                      |                                  |  |
|                           | 0.14 - 0.37  | 26 - 22        | 09 33 000 6127                                | 09 33 000 6227  | 09 33 000 6117   | 09 33 000 6217                       |                                  |  |
|                           | 0.5  | 20             | 09 33 000 6121                                | 09 33 000 6220  | 09 33 000 6122   | 09 33 000 6222                       |                                  |  |
|                           | 0.75   | 18             | 09 33 000 6114                                | 09 33 000 6214  | 09 33 000 6115   | 09 33 000 6215                       |                                  |  |
|                           | 1  | 18             | 09 33 000 6105                                | 09 33 000 6205  | 09 33 000 6118   | 09 33 000 6218                       |                                  |  |
|                           | 1.5  | 16             | 09 33 000 6104                                | 09 33 000 6204  | 09 33 000 6116   | 09 33 000 6216                       |                                  |  |
|                           | 2.5  | 14             | 09 33 000 6102                                | 09 33 000 6202  | 09 33 000 6123   | 09 33 000 6223                       |                                  |  |
|                           | 3  | 12             | 09 33 000 6106                                | 09 33 000 6206  |  |                                      |                                  |  |
| 4                         | 12   | 09 33 000 6107 | 09 33 000 6207                                | 09 33 000 6119  | 09 33 000 6221   |                                      |                                  |  |
| Crimping tools            | Crimping tools acc. to IEC 60352-2                     |                | 09 99 000 0501                                | 09 99 000 0525  | 09 99 000 0635   | 09 99 000 0531                       |                                  |  |
|                           |  |                |   |   |  |                                      |                                  |  |
|                           | Contacts / cross-section [mm <sup>2</sup> ]            |                | D-Sub / 0.09 ... 0.52                         | Positioner for M12 male   | Positioner for M12 female  | Positioner for D-Sub male and female |                                  |  |
| Crimping tools            | Crimping tools acc. to IEC 60352-2                     |                | 09 99 000 0021                                | 09 99 000 0110  | 09 99 000 0888   | 09 99 000 0012                       | 09 99 000 0847                   | 09 99 000 0809                               |
|                           |  |                |   |   |  |                                      |                                  |  |
|                           | Contacts / cross-section [mm <sup>2</sup> ]            |                | Han D® / 0.14 ... 1.5<br>Han E® / 0.5 ... 2.5 | Han D® / 0.14 ... 1.5<br>Han E® / 0.5 ... 4.0<br>Han® C / 1.5 ... 4.0 | Han D® / 0.14 ... 2.5<br>Han E® / 0.14 ... 4.0<br>Han® C / 1.5 ... 4.0 | Han D®<br>Removal Tool               | Han E® / Han D®<br>Assembly Tool | Han® 1A D-Sub<br>Insertion / Removal<br>Tool |

## Description and Overview

HARTING Han® 1A System Cabling - pre-assembled, overmoulded and universally usable

### Feature & Benefits:

- Time savings - quick and easy installation due to a Plug & Play solution
- Reliability - highest level of quality due to a 100% outgoing goods inspection
- High robustness - IP65, IP66/67 in mated and locked position
- Customised system cabling on request - including different lengths, cable types and variants
- Compact solutions for power and signal transmission



| Part numbers   |                | Side 1 |                                   |                                   | Side 2 | Cable  |                         | IP-Protection         |                       |
|----------------|----------------|--------|-----------------------------------|-----------------------------------|--------|--------|-------------------------|-----------------------|-----------------------|
|                |                | Gender | Insert                            | Locking                           |        | Jacket | Type (mm <sup>2</sup> ) |                       |                       |
| Power          | 33500100201XXX | Female | 3+PE                              | Single locking lever <sup>1</sup> | -      | PVC    | 4G2.5                   | IP 65                 |                       |
|                | 33500200201XXX | Male   |                                   | Snap-In Latch                     | -      |        |                         |                       |                       |
|                | 33500300201XXX | Female |                                   |                                   | -      |        |                         |                       |                       |
|                | 33500400201XXX | Male   |                                   |                                   |        |        |                         |                       |                       |
|                | 33500500202XXX | Female | 3+PE+Shld                         | Single locking lever <sup>1</sup> | -      | PVC    | 4G1.5+Shld              |                       |                       |
|                | 33500600202XXX | Male   |                                   | Snap-In Latch                     | -      |        |                         |                       |                       |
|                | 33500700202XXX | Female |                                   |                                   | -      |        |                         |                       |                       |
|                | 33500800202XXX | Male   |                                   |                                   |        |        |                         |                       |                       |
|                | 33500900203XXX | Female | 5+PE                              | Single locking lever <sup>1</sup> | -      | PVC    | 6G1.5                   |                       |                       |
|                | 33501000203XXX | Male   |                                   | Snap-In Latch                     | -      |        |                         |                       |                       |
|                | 33501100203XXX | Female |                                   |                                   | -      |        |                         |                       |                       |
|                | 33501200203XXX | Male   |                                   |                                   |        |        |                         |                       |                       |
|                | 33400100202XXX | Female | 3+PE                              | Single locking lever <sup>1</sup> | -      | PVC    | 4G2.5                   |                       | IP 66/67 <sup>2</sup> |
|                | 33400200202XXX | Male   |                                   | Snap-In Latch                     | -      |        |                         |                       |                       |
|                | 33400300202XXX | Female |                                   |                                   | -      |        |                         |                       |                       |
|                | 33400400202XXX | Male   |                                   |                                   |        |        |                         |                       |                       |
| 33400500201XXX | Female         | 5+PE   | Single locking lever <sup>1</sup> | -                                 | PVC    | 6G1.5  |                         |                       |                       |
| 33400600201XXX | Male           |        | Snap-In Latch                     | -                                 |        |        |                         |                       |                       |
| 33400700201XXX | Female         |        |                                   | -                                 |        |        |                         |                       |                       |
| 33400800201XXX | Male           |        |                                   |                                   |        |        |                         |                       |                       |
| Signal         | 33501300304XXX | Female | 12 pole                           | Single locking lever <sup>1</sup> | -      | PVC    | 12 x 0.34               | IP 65                 |                       |
|                | 33501400304XXX | Male   |                                   | Snap-In Latch                     | -      |        |                         |                       |                       |
|                | 33501500304XXX | Female |                                   |                                   | -      |        |                         |                       |                       |
|                | 33501600304XXX | Male   |                                   |                                   |        |        |                         |                       |                       |
|                | 33400900703XXX | Female | 12 pole                           | Single locking lever <sup>1</sup> | -      | PVC    | 12 x 0,5                | IP 66/67 <sup>2</sup> |                       |
|                | 33401000703XXX | Male   |                                   | Snap-In Latch                     | -      |        |                         |                       |                       |
|                | 33401100703XXX | Female |                                   |                                   | -      |        |                         |                       |                       |
|                | 33401200703XXX | Male   |                                   |                                   |        |        |                         |                       |                       |

<sup>1</sup>metal lever needs to be ordered separately (part no. 09 10 000 5200)

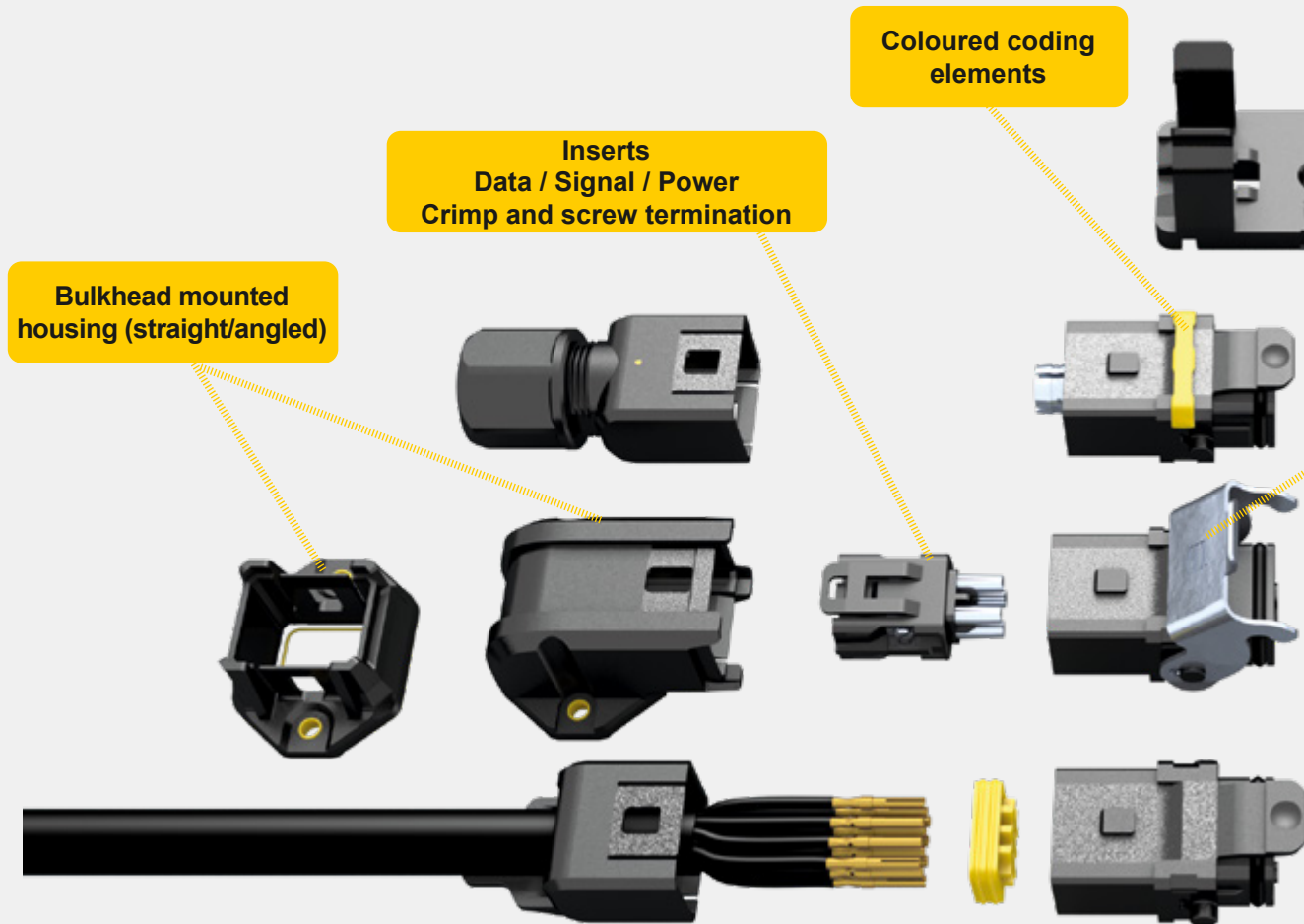
<sup>2</sup>cable to cable position

you can find more information in our eShop  
<https://b2b.harting.com/475329>

| Standard length |             |             |            |
|-----------------|-------------|-------------|------------|
| 010 = 1.0 m     | 030 = 3.0 m | 050 = 5.0 m | 100 = 10 m |

## Your configuration:

The right connectivity solution for every application!



### Light weight

Thanks to the used material the Han<sup>®</sup> 1A has a weight advantage in comparison to connectors that are e.g. made of metal.



### Shock and vibration resistant

The Han<sup>®</sup> 1A product series provides a high reliable connection even under shock and vibration conditions.



### Versatile concept

Build your own connectivity solution by using the modularity advantage of the Han<sup>®</sup> 1A with inserts covering power, signal and data transmission. Together with all accessory parts the Han<sup>®</sup> 1A is a very flexible system usable for a broad range of applications.



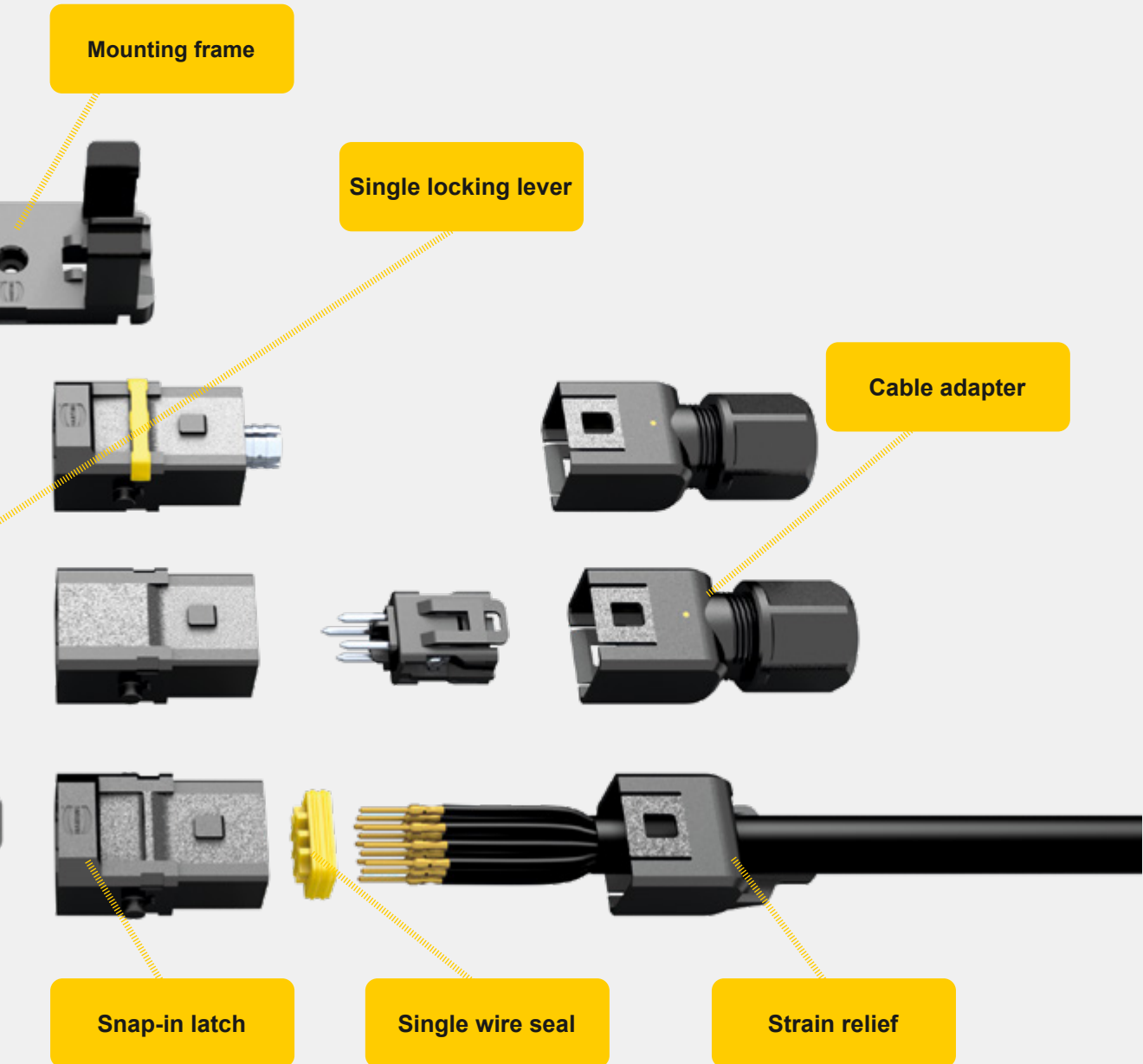
### Time saving

Due to the easy mate and click design of all single components the assembly of the connector is done within seconds – and there are no tools needed.



### Space saving

The Han<sup>®</sup> 1A components are designed to fulfil the trend of miniaturisation – while being still a robust Han<sup>®</sup> connector also for harsh environments.



#### Chemical resistance

Although the Han<sup>®</sup> 1A is made of plastic, the connector is resistant to chemicals and other aggressive influences.



#### Cost saving

Limited storage costs due to a versatile system – almost unlimited combinations possible.



#### Data transmission up to Cat. 6A

The modularity of the new connector offers a complete system which also includes the possibility of highspeed data transmission.



#### IP protected where needed

By usage of hood and housing elements or single wire seals IP65 protection degree can be realised in an easy way.

## Technical characteristics

### Material characteristics

|  |  |
|--|--|
| Material (insert, hood, housing)                 | Polyamide, TPE   |
| Material seal                                    | NBR  |
| Material single wire seal                        | Silicone   |
|  | Halogen free   |
|  | High chemical resistance                                       |
|  | V-0  |
| Flammability UL94                                |  |
| Fire protection on railway vehicles (EN 45545-2) | R22: HL1, HL2, HL3<br>R23: HL1, HL2, HL3<br>R24: HL1, HL2, HL3 |
| Limiting temperatures                            | -30 ... +90 °C   |

### Mechanical characteristics

|                                |                     |
|--------------------------------|---------------------|
| Mating cycles                  |                     |
| With snap-in latch             | ≥ 100               |
| With metal locking lever       | ≥ 100               |
| Shock and vibration (EN 61373) | Cat. 1 <sub>B</sub> |
| IP protection                  | IP20 - IP65         |

### Inserts

|        |                             |
|--------|-----------------------------|
| Signal | Up to 12 pole               |
| Power  | Up to 16 A                  |
| Data   | Cat. 5; Cat. 6 <sub>A</sub> |

### Approvals

|        |   |
|--------|---|
| UL/CSA | UL 1977 ECBT2.E235076<br>CSA-C22.2 No. 182.3<br>ECBT8.E235076 |
|--------|---|

Please contact your local HARTING Subsidiary for further information.



Locking mechanism with snap-in latch or robust metal locking lever.

Locking lever needs to be ordered separately.



IP65 protection by single wire seal.

Single wire seal for IP 65 protection is not required if a cable adapter (09 10 000 0400) or a bulkhead mounted housing (09 10 000 0300 / 09 10 000 0800) is used.

### General information:

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- Illumination
- Headlights
- Speakers
- Indicating lights
- Warning lights
- Screens
- Door opener
- Push buttons
- Buzzers
- Windscreen wiper systems



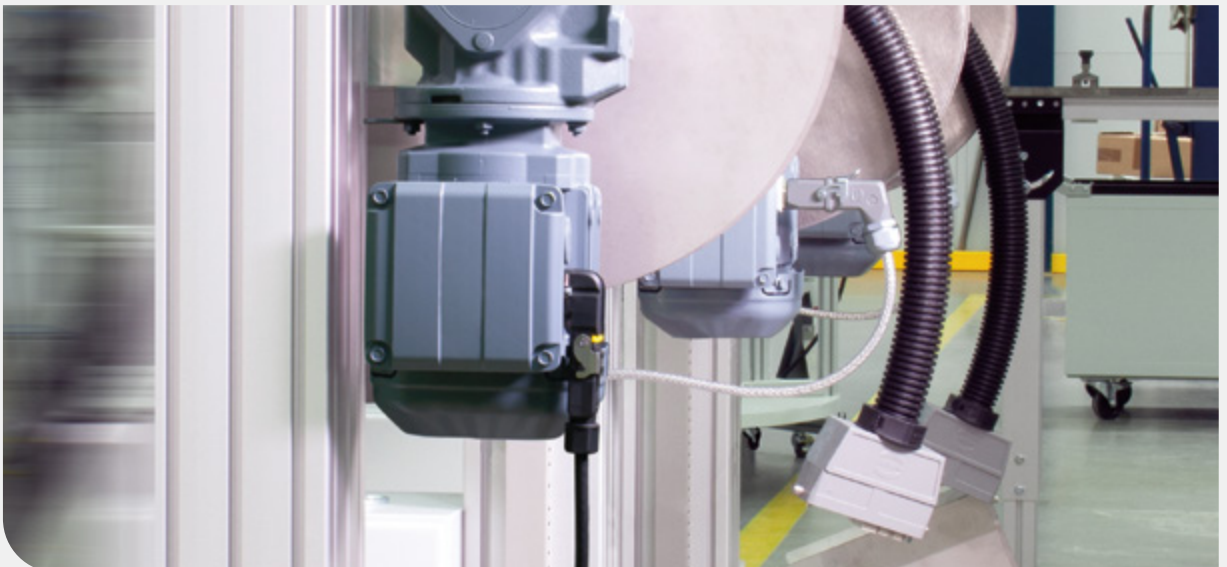
- Battery storage systems
- Solar inverters
- Power plant control systems and cabinets
- Power generator sets
- Sensors



- Tower lighting
- Emergency stops
- Sensors
- Indicating sounds
- Ventilators



- Heater
- Fans
- Control terminals
- Industrial lighting
- Small drives
- Vibratory conveyors
- Connections inside cabinets





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