Gigabit Ethernet connectors
GigaDock
DuraDock ready | Connectors for Automatic Systems
**Introduction**

Robots, efficient assembly technology and image processing are groundbreaking for Industry 4.0 and key technologies in many industries such as automotive engineering. Stäubli delivers suitable Gigabit Ethernet connectors for advanced automation technology.

The connectors guarantee safe and reliable transmission of signals, data and fieldbuses. DuraDock – the brand for connectors for the highest demands and applications with very high mating cycles. With up to one million mating cycles, they can easily meet all the requirements of automated industry sectors such as automotive, electronics, testing and many more.

**Areas of application:**
- Automatic Tool changer
- Automatic (multi) couplings
- Test benches

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**DuraDock ready**

“ready” – the name says it all. All connectors in this series are plug-and-play, i.e. suitable for immediate use. You save time and effort for wiring and connecting cables including stripping, crimping, soldering, etc.

The installation in docking plates or machine parts takes place after:
- Performing the drilling plan
- Inserting anti-rotation grooved pin
- Fixing the retaining ring
- Screwing on the M12 connecting cable

**GigaDock**

GigaDock connectors for signal and data transmission for use in applications with docked camera systems:

**Automotive:**
- In press-shops for crack detection after stamping
- In body shops for gap detection, etc.
- In paint shops for quality control

**General assembly:**
- Pick-and-Place

**Quality control and testing systems:**
- Automatic and manual docking systems in test benches for transmission, engines or turbines

**Image processing:**
- Digital image processing and the required GigE-Vision interface
GigaDock10 connector

Extremely compact connectors for the highest demands up to 10 GBit/s. All 8 poles of the Ethernet are available.

For mounting in docking plates with 6.6 mm and 13 mm spacing.

**Note**
- Degree of protection IP65

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Type</th>
<th>Description</th>
<th>Plug connection</th>
<th>Suitable for</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.6667</td>
<td>GigaDock10-S90-S-M12X</td>
<td>Pre-assembled and tested connector</td>
<td>M12 socket x-coded</td>
<td>Network cable, Ethernet, CAT6A, 8 pin (10 GBit/s)</td>
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<tr>
<td>18.6666</td>
<td>GigaDock10-S90-B-M12X</td>
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</table>

Assembly instructions MA203
www.staubli.com/electrical
Robots, assembly technology and image processing are key technologies in modern vehicle manufacturing. Stäubli provides the appropriate gigabit Ethernet plug connectors for future-oriented automation technology.

**Applications**
- Automatic tool changing on the robot
- Docking systems on transmission or engine test benches
- Digital image processing using the GigE Vision interface

**Note**
- Degree of protection IP65

### GigaDock1-IS...

![GigaDock1-IS...](image)

### GigaDock1-IS90...

![GigaDock1-IS90...](image)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Type</th>
<th>Description</th>
<th>Plug termination</th>
<th>Fits</th>
<th>Cable outlet</th>
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<tbody>
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<td>Axial 90°</td>
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</table>

Assembly instructions MA203
www.staubli.com/electrical
Stäubli GigaDock1 connectors are supplied ready for use for fitting into docking plates. Once assembled, they are easy to connect using the M12 8-pole Ethernet CAT6A network cable (e.g. Metz Connect M12 Ethernet connecting lead, CAT6, 8-pole, x-coded or M12 SPEEDCON /IP67/X).

**GigaDock1-...**
min. CAT5e (1 GBit/s)

**Note:**
The patch cable must be x-coded and is not included in the Stäubli delivery.

**GigaDock10-...**
Orientation of the M12 socket at 45°
min. CAT6A (10 GBit/s)

Socket side

Pin side

M12 connector
IEC 61076-2-109, Ethernet, CAT6A, CAT5, min. 1 or 10 GBit/s
GigaDock10

Excellent transfer performance and long-term stability

New signal transmission and after 1 million cycles, for example NEXT

![Graph showing NEXT dB vs. Frequency (MHz) for new and after 1 mio. mating cycles.]

Change in resistance during cycles

![Graph showing Resistance vs. Mating cycles.]

Limit (dB) NEXT new NEXT after 1 mio. mating cycles
Insertion and pull-out forces during mating cycles

![Line graph showing insertion and withdrawal forces](image)

- **Insertion force**
- **Withdrawal force**

<table>
<thead>
<tr>
<th>Force [N]</th>
<th>New</th>
<th>After 1 mio. mating cycles</th>
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<tbody>
<tr>
<td>0</td>
<td></td>
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</tr>
<tr>
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</tr>
<tr>
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</tbody>
</table>

- Force values in Newton (N)
- Graph shows increase in forces with mating cycle count.
Global presence of the Stäubli Group

www.staubli.com