ODU MINI-SNAP® HYBRID CONNECTORS
Maximum performance and reliability to fit the smallest available spaces – a solution made to measure!

MULTIFUNCTIONAL INTERFACE
HYBRID CONNECTORS –
VERSATILE AND EASY TO USE

Smaller, lighter, more powerful — what applies for end devices in the areas of industry, medical technology, as well as test and measurement is also a key requirement for the connecting interfaces and transmission infrastructure.

The trends that will drive future developments in the connector technology are:

- Miniaturization
- Ease of installation
- Optimized use of space

Hybrid connectors meet all of these objectives mentioned above and furthermore also the demands of increasingly challenging environmental conditions due to:

- Quick installation Push-Pull locking
- Combined transmission of various media in one interface:
  - electrical (signals, power, data)
  - physical (liquids, gases)

Hybrid connectors offer tailored, application-specific solutions. They are suited for use in harsh environments while ensuring high numbers of mating cycles.

- One interface for a wide variety of transmissions facilitates ease of installation
- Highest performance
  - Data transmission: up to 100 Mbit/s
  - Operating pressure: up to 5 bar
  - Power transmission: up to 8.5 kW
  - Signals: up to 22
- Proven Push-Pull locking – for up to 5,000 mating cycles
- Minimal space requirements – as little as 15 mm
- Maximum reliability even under the most challenging environmental conditions — from –40 °C to 120 °C
- And much more!
MEDICAL TECHNOLOGY
APPLICATION: controlling, power and air supply of professional dental cleaning equipment
TASK: combined transmission of air, electrical signals and power of up to 8.5 kW (at 1.25 kV AC) in one single interface
SOLUTION:
- Ease of handling with one interface combining several media transmission types featuring the quick to install ODU Push-Pull technology
- Maximum process security due to the employment of crimp termination of contacts
- Minimal weight thanks to plastic housing
- Highest efficiency in regards to installation and operation is enabled by the use of application-specific materials such as stainless steel in the air feed-through area and a connector design precisely tailored to the customer’s assembly specifications (separate connection of air tube, single conductor and strain relief)

TEST AND MEASUREMENT
APPLICATION: mobile analytics and monitoring of gas flow
TASK: combined transmission of electrical signals and gases in one single interface
SOLUTION:
- Ease of handling due to combining two media transmission types in one interface featuring the quick to install ODU Push-Pull technology and the possibility for a direct mounting on the PCB via print soldering.
- Tailored design and material selection, withstanding the harsh environmental conditions in the field while taking into account specific assembly requirements.
- Maximum reliability ensured by customized test procedures (a.o. confirming requirements for higher impermeability, mating forces and mating cycles)

INDUSTRIAL AND OUTDOOR
APPLICATION: GPS-Monitoring and control of fertilizer distribution within mobile agricultural equipment.
TASK: combined transmission of electrical signals and data in one single interface
SOLUTION:
- Ease of handling due to combining data and signal transmission in one interface featuring the quick to install ODU Push-Pull technology and the possibility for a direct mounting on the PCB via print soldering.
- Quick data transmission thanks to data transfer rates of up to 100 Mbit/s according to Fast Ethernet standard\(^1\)
- Outstanding operational reliability in the most challenging environmental conditions characterized by strong vibration, dust and water (IP 68) as well as electromagnetic interferences within the connector

\(^1\)These ODU specific connectors can transmit common data transmission protocols such as Ethernet, but they are not Ethernet-standard connectors.
MORE THAN JUST ONE SOLUTION – STANDARD OR TAILOR MADE

While ODU offers an extensive range of existing hybrid connectors, we’re also fully aware of the wide variety of challenges our customers face.

ODU stands for fast, dependable solutions and short paths. Keeping the products, specifications and final applications firmly in mind, our customer consultants are able to find the perfect connection you’re looking for and deliver effective solutions tailored to your specific needs. ODU offers more than just products. Instead we provide a holistic service from the very first talks all the way to the finished application. We never lose sight of your required development and the challenges associated. We deliver customized infrastructure solutions including interfaces, connectors and cable assemblies of highest quality.

We’ll be glad to provide you with support along your path to a connector solution that perfectly meets your needs. Call us today at +49 8631 6156-0 or send us an e-mail: info@odu.de
YOU’RE THE EXPERT WHEN IT COMES TO YOUR APPLICATION – WE’LL CREATE A TAILORED SOLUTION TO MEET YOUR NEEDS!

WHAT TYPES OF TRANSMISSION CAN YOU COMBINE IN A HYBRID CONNECTOR?

What makes ODU hybrid connectors so special is that both electrical and physical transmission types can be combined.

a) Electrical
   Signal, power, data, special designs (e.g., coax)

b) Physical
   Gases, liquids

WHAT ARE ESSENTIAL CONSIDERATIONS TO BE MADE PRIOR TO DETERMINING YOUR HYBRID INTERFACE?

a) General application characteristics
   • Description of the application
   • What types of transmissions are needed in my interface?
   • How many transmission types do I want to combine?
   • Available space
   • Environmental conditions (e.g., temperature, water, dust, chemicals)

b) Electrical characteristics
   • Number of contacts
   • Protocols
   • Nominal voltage
   • Nominal current

c) Physical characteristics
   • Media type
   • Tube diameter
   • Nominal pressure

WHICH COMBINATIONS ARE MOST COMMONLY REQUESTED?

• Power + signals
• Power + data
• Signals + data
• Signals + coax
• Coax + liquid
• Coax + gas

WE’RE HERE FOR YOU.

Whether you’re looking for a standard or custom solution, we’ll be happy to help. Call us today at +49 8631 6156-0 or send us an e-mail: info@odu.de
HEADQUARTERS
ODU GmbH & Co. KG
Pregelstraße 11, 84453 Mühldorf a. Inn, Germany
Phone: +49 8631 6156 - 0, Fax: +49 8631 6156 - 49, E-mail: zentral@odu.de

SALES SUBSIDIARIES

ODU Denmark ApS
Phone: +45 2233 5335
E-mail: sales@odu-denmark.dk
www.odu-denmark.dk

ODU France SARL
Phone: +33 1 3935-4690
E-mail: odu@odu.fr
www.odu.fr

ODU Italia S.R.L.
Phone: +39 331 8708847
E-mail: sales@odu-italia.it
www.odu-italia.it

ODU Japan K.K.
Phone: +81 3 6441 3210
E-mail: sales@odu.co.jp
www.odu.co.jp

ODU Scandinavia AB
Phone: +46 176 18262
E-mail: sales@odu.se
www.odu.se

ODU (Shanghai) International Trading Co., Ltd.
Phone: +86 21 58347828-0
E-mail: oduchina@odu.com.cn
www.odu.com.cn

ODU UK Ltd.
Phone: +44 330 002 0640
E-mail: sales@odu-uk.co.uk
www.odu-uk.co.uk

ODU USA, Inc.
Phone: +1 805 484-0540
E-mail: sales@odu-usa.com
www.odu-usa.com

Further information and specialized representatives can be found at:
www.odu-connectors.com/contact

PRODUCTION AND LOGISTICS SITES

Germany
Otto Dunkel GmbH

China
ODU (Shanghai) Connectors Manufacturing Co.Ltd

Mexico
ODU Mexico Manufacturing S.R.L. de C.V.

Romania
ODU Romania Manufacturing S.R.L.

USA
ODU-USA, Inc.

ODU North American Logistics

All dimensions are in mm. Some figures are for illustrative purposes only. Subject to change without notice. Errors and omissions excepted. We reserve the right to change our products and their technical specifications at any time in the interest of technical improvement. This publication supersedes all prior publications. This publication is also available as a PDF file that can be downloaded from www.odu-connectors.com.