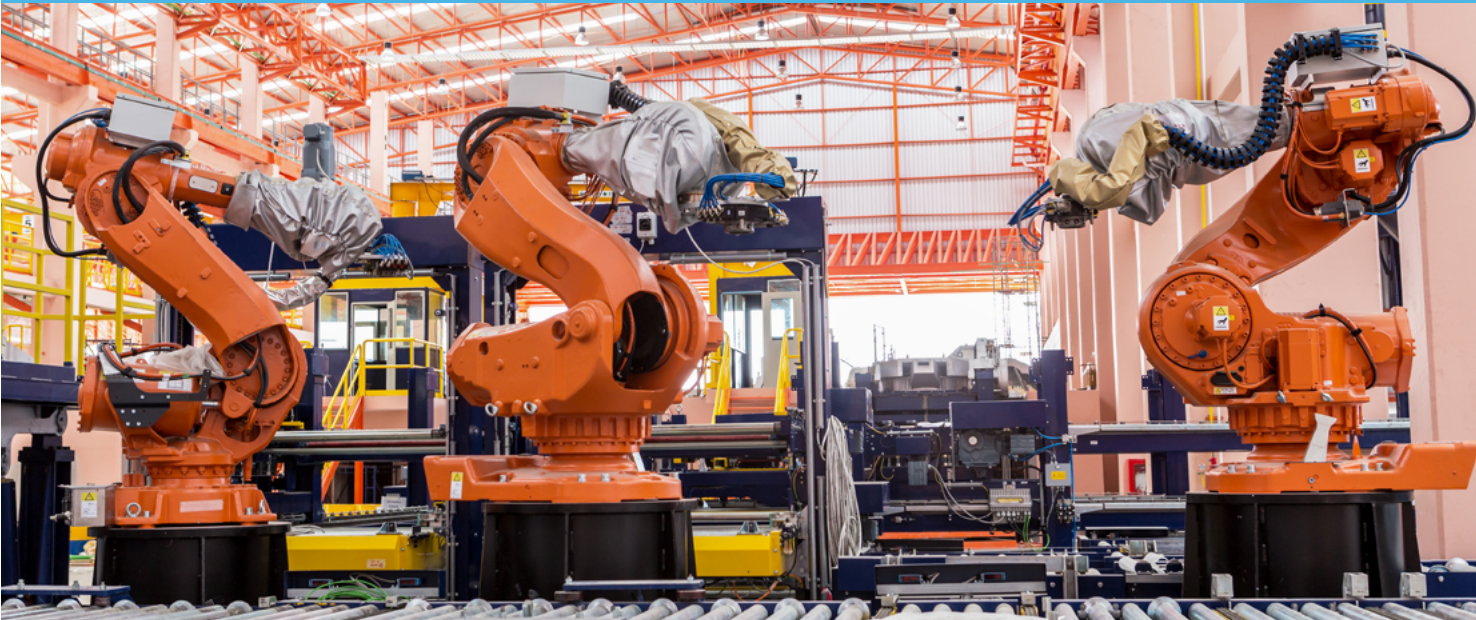


# ADVANCED RS-485 TRANSCEIVERS



High data rate, compact,  
low voltage solutions



## ST4E1216/40 and STR485 series: flexible portfolio for reliable and high-performance communications

The **ST4E1216**, **ST4E1240**, and **STR485 series** are low-power differential line transceivers for modern **RS-485** applications in half-duplex mode. Compatible with 3.3 V and 5 V power supplies, and with a 1.8 V capability for I/Os for the STR485 series, these transceivers offer robust performance, high data rates, and exceptional ESD protection. They are perfect for multipoint applications over extended cable runs, ensuring reliable data transmission even in complex environments.

### KEY FEATURES

- Half-duplex
- 3.3 V, 5 V compatible
- I/Os compatible with 1.8 V for recent MCUs interface
- Up to 40 Mbps (ST4E1240) and 16 Mbps (ST4E1216)
- 250 kbps or 20 Mbps (STR485 series)
- 64, 128 or 256 nodes
- Integrated bus protections
  - Up to IEC61000-4-2  $\pm 12$  kV contact
  - Up to HBM  $\pm 30$  kV compliant
  - IEC61000-4-4  $\pm 4$  kV
- Hotswap, fail-safe, thermal shutdown
- Available in SO8, DFN8 or DFN10

### KEY APPLICATIONS

- Building management systems
  - HVAC, lighting or security networks
- Robotics
- Programmable logic controllers
- Telecom infrastructures

### KEY BENEFITS

- Improved safety for maintenance equipment
- Consistent data on the bus
- Suitable for high-speed applications
- Interoperability
- Flexible integration
- Enhanced robustness
- Bus I/O ESD protection
- Fail-safe receiver
- Thermal shutdown protection

## Advanced features for enhanced performance

The ST4E1216, ST4E1240, and STR485 series transceivers are designed to provide high performance and reliability across a wide range of applications. With features like hot-swap capability, robust ESD protection, and a large offering of data-rates, these transceivers ensure smooth integration, making them suitable for diverse uses.

### Hot-swap capability

#### Seamless integration and maintenance

They ensure stable operations during plug-in and power-up, making them ideal for applications requiring frequent hot insertion and removal. This feature is particularly beneficial for these applications.



#### Telecom and servers:

ensures reliable connectivity and data handling.



#### Energy and solar distributed generation:

enhances efficiency and sustainability.



#### Gas metering:

for accurate consumption measurement.



#### Smart sensor nodes:

enable precise data collection and monitoring.

### ESD protection

#### Exceptional reliability

They provide exceptional ESD protection, with bus pins supporting up to  $\pm 12$  kV IEC 61000-4-2 contact discharge. This protection is very important for:



#### Video surveillance:

protects equipment from electrostatic discharge, ensuring uninterrupted monitoring.



#### Power & energy metering:

shields devices from ESD, maintaining accurate readings.



#### PLC (programmable logic controller) / fieldbus:

ensures data processing and connectivity with a wide range of industrial networks.

### Product comparison

Features	STR485	STR485E	ST4E1216	ST4E1240
V <sub>cc</sub>	3.3 V (1.8 V I/O)	3.3 V (1.8 V I/O)	3.3 V/5 V	3.3 V/5 V
Data rate	250 kbps / 20 Mbps	250 kbps / 20 Mbps	16 Mbps	40 Mbps
Temperature range	-40°C to 105°C	-40°C to 125°C	-40°C to 125°C	-40°C to 85°C/125°C
Number of nodes	256	128	64	64
Package	DFN10	DFN10	S08	S08 / DFN8



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