

# RS-485 PRODUCTS

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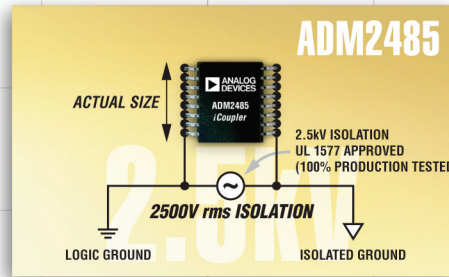
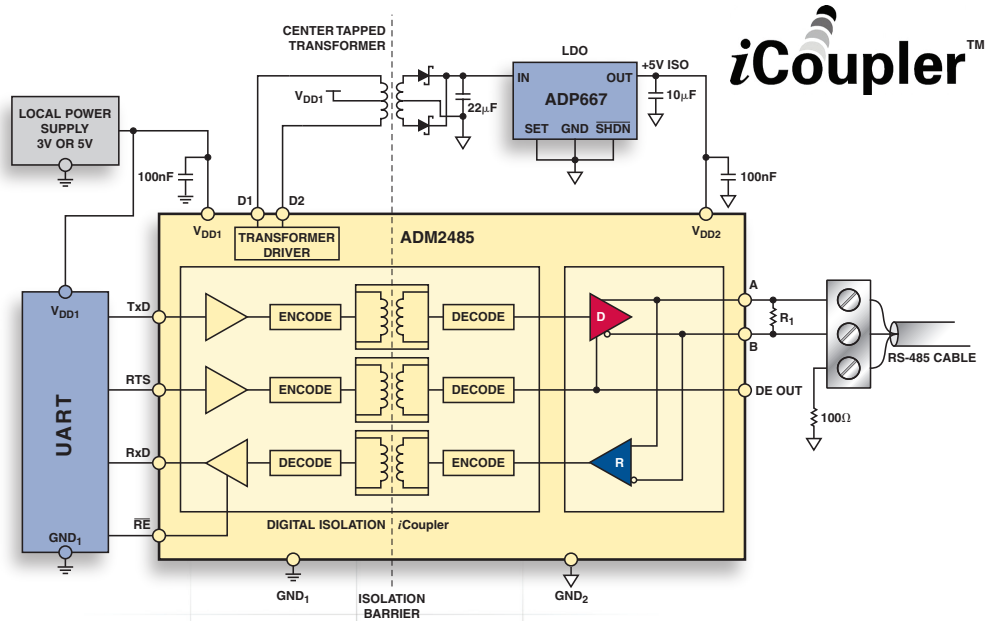
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## ADM2485: 16 Mbps, *iCoupler*® Isolated, PROFIBUS®-Compliant RS-485 Transceiver with Integrated Transformer Driver in a 16-Lead Surface-Mount Package



ADM2485: 16-lead, wide-body SOIC package.

### 2.5 kV, *iCoupler* Isolated RS-485 Transceivers Selection Table

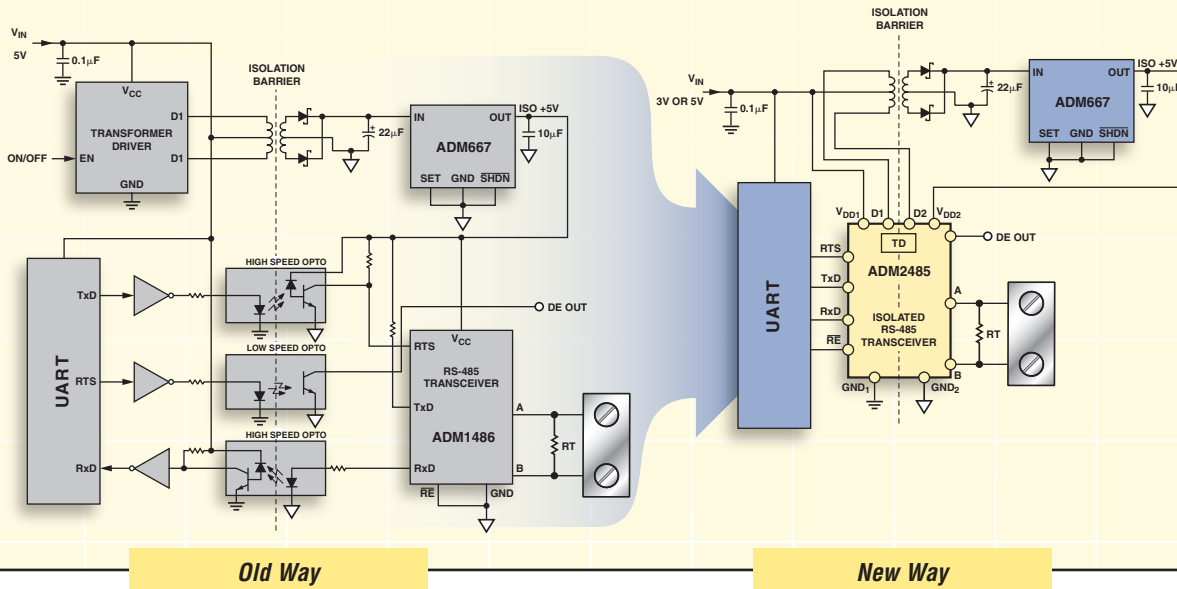
Part Number	Integrated Transformer Driver	Half-/Full-Duplex	Data Rate	Nodes on Bus	Price @ 1k (\$U.S.)
ADM2483	No	Half	500 kbps	256	3.00
ADM2486	No	Half	20 Mbps	50	4.98
ADM2490E	No	Full	16 Mbps	32	4.50
ADM2485	Yes	Half	16 Mbps	50	5.50



## ADM2485: 16 Mbps, *iCoupler* Isolated, PROFIBUS-Compliant RS-485 Transceiver with Integrated Transformer Driver in a 16-Lead Surface-Mount Package

**Features:**

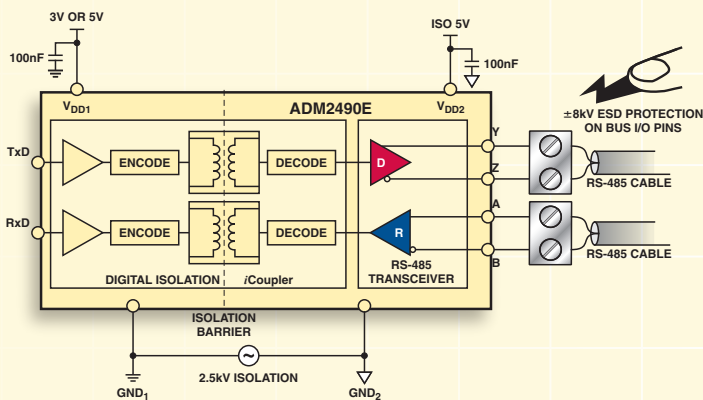
- Half-duplex, *iCoupler* isolated RS-485 transceiver
- Integrated transformer driver for external transformer
- 16 Mbps maximum data rate
- PROFIBUS- and RS-485-compliant
- 3 V or 5 V operation (VDD1)
- 2.5 kV, UL 1577 approved *iCoupler* isolation
- High common-mode transient immunity: >25 kV/ $\mu$ s
- 2.1 V minimum differential output with 54  $\Omega$  termination
- 0.5 ns skew driver and receiver
- Off the shelf transformers available
- Receiver open-circuit fail-safe design
- Isolated DE OUT status output
- Operating temperature range:  $-40^{\circ}$  to  $+85^{\circ}\text{C}$
- Wide-body, 16-lead SOIC package



## ADM2490E: 16 Mbps, ESD Protected, Full-Duplex, *iCoupler* Isolated, Interbus-Compliant RS-485/RS-422 Transceiver in a 16-Lead Surface-Mount Package

**Features:**

- Full-duplex, *iCoupler* isolated RS-485/RS-422 transceiver for interbus applications
- $\pm 8$  kV ESD protection on RS-485 I/O pins (Y, Z, A, B)
- 16 Mbps maximum data rate
- Suitable for 3 V or 5 V operation (VDD1)
- 2.5 kV, UL 1577 approved *iCoupler* isolation
- High common-mode transient immunity: >25 kV/ $\mu$ s
- Receiver open-circuit, fail-safe design
- Operating temperature range:  $-40^{\circ}$  to  $+105^{\circ}\text{C}$
- Wide-body, 16-lead SOIC package



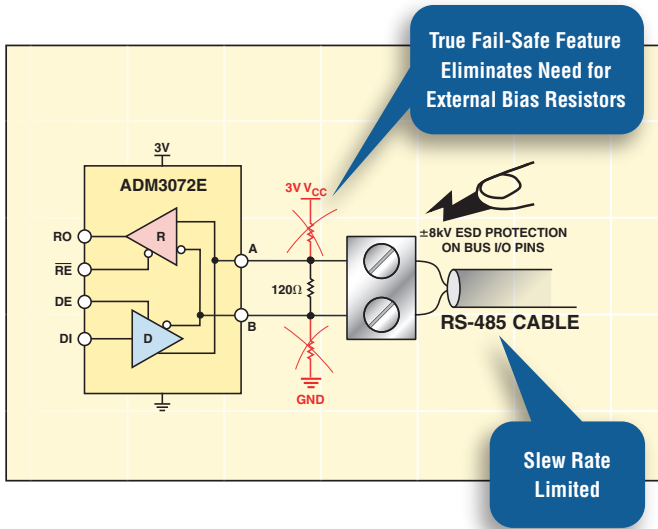
## Two NEW Families of 3 V RS-485/RS-422 Transceivers with Enhanced ESD Protection to $\pm 15$ kV

### ADM3070E to ADM3078E

#### Features

- $\pm 15$  kV ESD protection on RS-485 I/O pins
- Half- and full-duplex options
- 256 nodes on the bus
- True fail-safe receiver inputs, eliminates need for external bias resistors
- Hot-swap input structure on DE and  $\overline{RE}$
- Reduced slew rates for low EMI
- 8-lead and 14-lead SOIC packages
- Second sources to the MAX307xE
- Industry-standard pinout and footprint
- Extended temperature range:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$

Part Number	Data Rate	Half-/Full-Duplex	Driver/Receiver Enable	Second Source
ADM3070E	250 kbps	Full	Yes	MAX3070E
ADM3071E	250 kbps	Full	No	MAX3071E
ADM3072E	250 kbps	Half	Yes	MAX3072E
ADM3073E	500 kbps	Full	Yes	MAX3073E
ADM3074E	500 kbps	Full	No	MAX3074E
ADM3075E	500 kbps	Half	Yes	MAX3075E
ADM3076E	16 Mbps	Full	Yes	MAX3076E
ADM3077E	16 Mbps	Full	No	MAX3077E
ADM3078E	16 Mbps	Half	Yes	MAX3078E



### ADM3483E/ADM3485E/ADM3486E/ADM3488E/ADM3490E/ADM3491E

#### Features

- $\pm 15$  kV ESD protection on RS-485 I/O pins
- Half- and full-duplex options
- 32 nodes on the bus
- Receiver open-circuit, fail-safe design
- Reduced slew rates for low EMI
- 8-lead and 14-lead (ADM3491E) SOIC packages
- Second sources to the MAX34xxE
- Industry-standard pinout and footprint
- Temperature range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

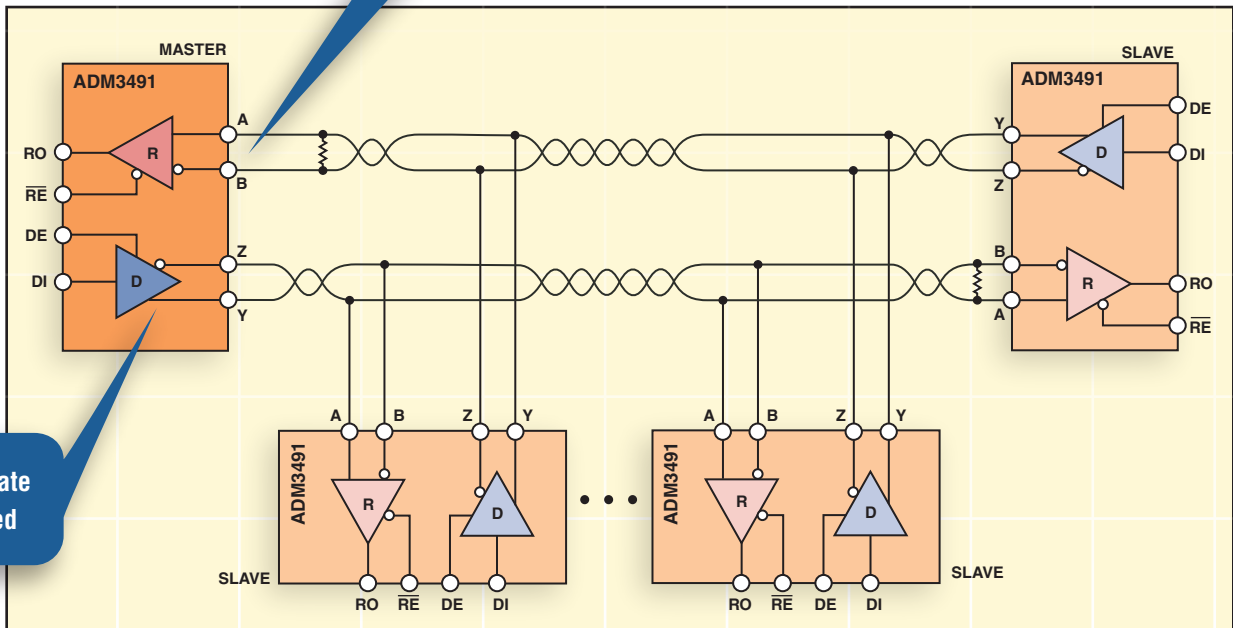
Part Number	Data Rate	Half-/Full-Duplex	Driver/Receiver Enable	Second Source
ADM3483E	250 kbps	Half	Yes	MAX3483E
ADM3485E	12 Mbps	Half	Yes	MAX3485E
ADM3486E	2.5 Mbps	Half	Yes	MAX3486E
ADM3488E	250 kbps	Full	No	MAX3488E
ADM3490E	12 Mbps	Full	No	MAX3490E
ADM3491E	12 Mbps	Full	Yes	MAX3491E

## ADM3483 to ADM3493: 3 V, Slew Rate Limited RS-485/RS-422 Transceivers in SOIC Packages

### ADM3483 to ADM3493 3 V Transceivers

- Half- and full-duplex options
- Multiple data rate options 250 kbps to 10 Mbps
- Slew rate limited differential outputs
- Up to 32 nodes on bus (ADM3493 up to 256 nodes on bus)
- Second-source to the MAX3483 to MAX3491
- 8-lead SOIC packages (ADM3491: 14-lead SOIC)

### New 3V RS-485/RS-422 Transceivers

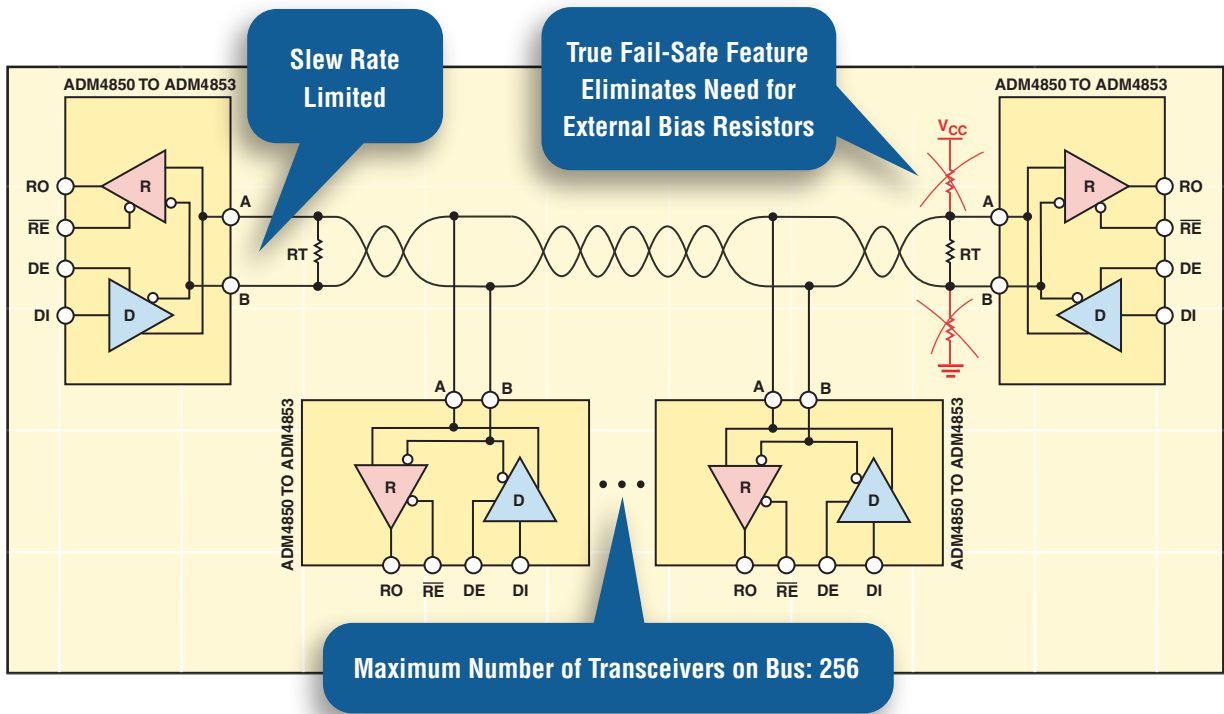
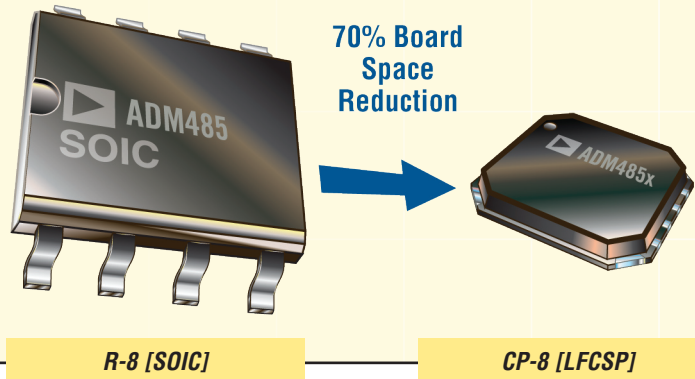


Part Number	Half-/Full-Duplex	Data Rate	Nodes on Bus	Driver/Receiver Enable	Package	Second Source
ADM3483	Half	250 kbps	32	Yes	8-lead SOIC	MAX3491
ADM3485	Half	10 Mbps	32	Yes	8-lead SOIC	MAX3485
ADM3488	Full	250 kbps	32	No	8-lead SOIC	MAX3488
ADM3490	Full	10 Mbps	32	No	8-lead SOIC	MAX3490
ADM3491	Full	10 Mbps	32	Yes	14-lead SOIC	MAX3491
ADM3493	Half	250 kbps	256	Yes	8-lead SOIC	—

# ADM4850 to ADM4857: Industry's First Fail-Safe CSP Packaged RS-485 Transceivers Save 70% Board Space

## ADM4850 to ADM4857 RS-485 Transceivers

- Up to 256 nodes on bus
- Half- and full-duplex options
- Multiple data rate options 115 kbps to 10 Mbps
- True fail-safe receiver inputs, eliminates need for external bias resistors
- Slew rate limited differential outputs
- Pin-compatible with MAX308x
- 8-lead SOIC and LFCSP packages



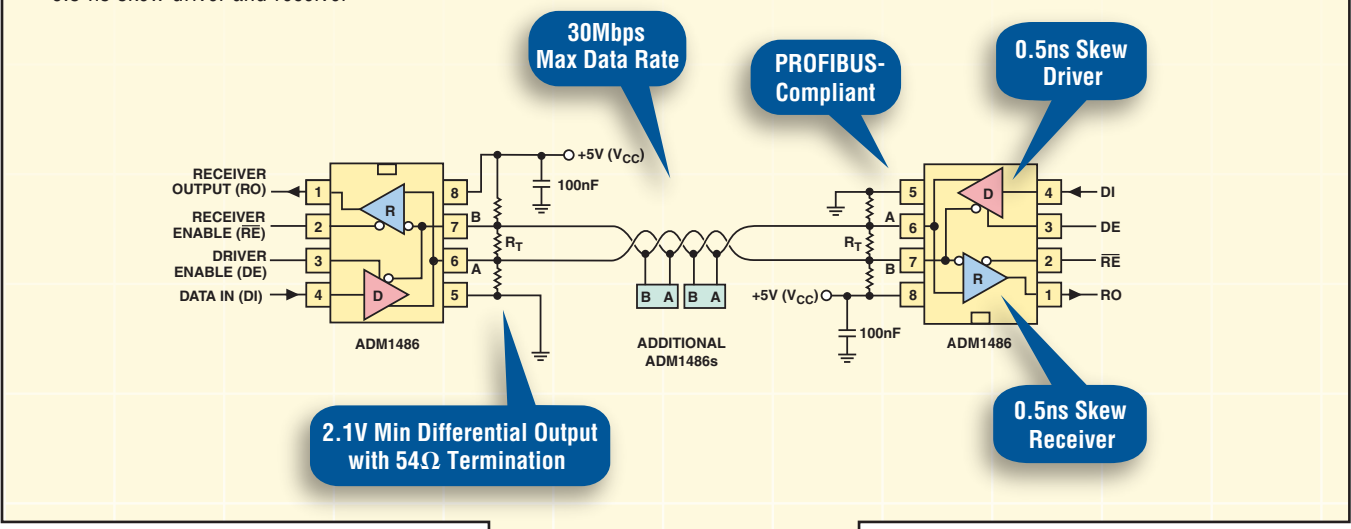
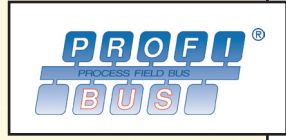
Part Number	Half-/Full-Duplex	True Fail-Safe	Data Rate	Nodes on Bus	Packages	Pin-Compatible with
ADM4850	Half	Yes	115 kbps	256	8-lead SOIC, 8-lead LFCSP	MAX3082
ADM4851	Half	Yes	500 kbps	256	8-lead SOIC, 8-lead LFCSP	MAX3085
ADM4852	Half	Yes	2.5 Mbps	256	8-lead SOIC, 8-lead LFCSP	—
ADM4853	Half	Yes	10 Mbps	256	8-lead SOIC, 8-lead LFCSP	MAX3088
ADM4854	Full	Yes	115 kbps	256	8-lead SOIC	MAX3081
ADM4855	Full	Yes	500 kbps	256	8-lead SOIC	MAX3084
ADM4856	Full	Yes	2.5 Mbps	256	8-lead SOIC	—
ADM4857	Full	Yes	10 Mbps	256	8-lead SOIC	MAX3087
ADM483	Half	No	250 kbps	32	8-lead SOIC	MAX483



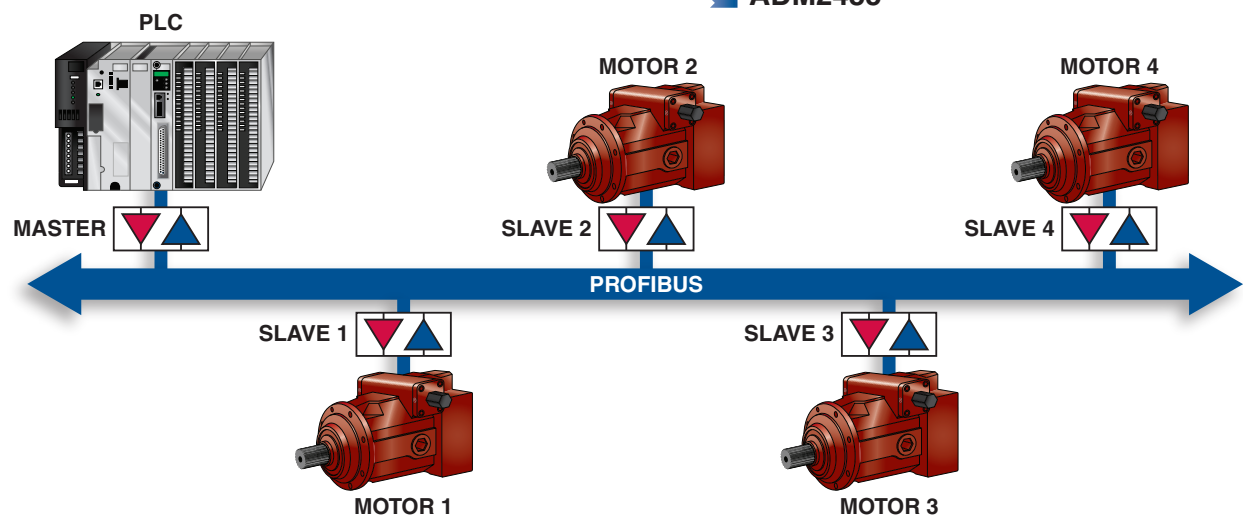
# PROFIBUS-Compliant Products

ADM1486: 5 V, PROFIBUS RS-485 Transceiver

- 30 Mbps data rate
- Recommended for PROFIBUS applications
- 2.1 V minimum differential output with 54 Ω termination
- 0.5 ns skew driver and receiver
- Up to 50 transceivers on a bus
- Pin-compatible with SN65ALS1176
- 8-lead SOIC package



PROFIBUS RS-485 TRANSCEIVER ADM1486  
ADM2486  
ADM2485



Part Number	Isolation Voltage	Half-/Full-Duplex	Maximum Data Rate	Nodes on Bus	Package
ADM1486	—	Half	30 Mbps	50	8-lead SOIC
ADM2486	2500 V rms (UL 1577)	Half	20 Mbps	50	Wide-body, 16-lead SOIC
ADM2485	2500 V rms (UL 1577)	Half	16 Mbps	50	Wide-body, 16-lead SOIC

## ADM2483: 500 kbps, Half-Duplex, *iCoupler* Isolated RS-485 Transceiver in a 16-Lead Surface-Mount Package

**Features**

- 500 kbps maximum data rate
- Half-duplex, *iCoupler* isolated RS-485 transceiver
- Slew rate limited driver outputs
- Suitable for 3 V or 5 V operations (VDD1)
- 2.5 kV, UL 1577 approved *iCoupler* isolation
- High common-mode transient immunity: >25 kV/μs
- True fail-safe receiver inputs, eliminates need for external bias resistors
- 256 nodes on bus
- Operating temperature range: -40°C to +85°C
- Wide-body, 16-lead SOIC package

**ADM2483: 500 kbps, Isolated RS-485 Transceivers in 16-Lead Surface-Mount Package**

## ADM2486: 20 Mbps, Half-Duplex, *iCoupler* Isolated, PROFIBUS-Compliant RS-485 Transceiver in a 16-Lead Surface-Mount Package

**Features**

- 20 Mbps maximum data rate
- PROFIBUS- and RS-485-compliant
- Half-duplex, *iCoupler* isolated RS-485 transceiver
- Suitable for 3 V or 5 V operations (VDD1)
- 2.5 kV, UL 1577 approved *iCoupler* isolation
- High common-mode transient immunity: >25 kV/μs
- Isolated DE status output
- 50 nodes on bus
- Operating temperature range: -40°C to +85°C
- Wide-body, 16-lead SOIC package



# RS-485 Product Selection Guide

15 kV, ESD Protected RS-485/RS-422 Transceivers

Part Number	V <sub>CC</sub> (V)	Data Rate	Half-/Full-Duplex	Nodes on Bus	Driver/Receiver Enable	Fail-Safe	Package	Second Source
ADM3070E	3	250 kbps	Full	256	Yes	Open, Short	14-lead SOIC	MAX3070E
ADM3071E	3	250 kbps	Full	256	No	Open, Short	8-lead SOIC	MAX3071E
ADM3072E	3	250 kbps	Half	256	Yes	Open, Short	8-lead SOIC	MAX3072E
ADM3073E	3	500 kbps	Full	256	Yes	Open, Short	14-lead SOIC	MAX3073E
ADM3074E	3	500 kbps	Full	256	No	Open, Short	8-lead SOIC	MAX3074E
ADM3075E	3	500 kbps	Half	256	Yes	Open, Short	8-lead SOIC	MAX3075E
ADM3076E	3	16 Mbps	Full	256	Yes	Open, Short	14-lead SOIC	MAX3076E
ADM3077E	3	16 Mbps	Full	256	No	Open, Short	8-lead SOIC	MAX3077E
ADM3078E	3	16 Mbps	Half	256	Yes	Open, Short	8-lead SOIC	MAX3078E
ADM3483E	3	250 kbps	Half	32	Yes	Open	8-lead SOIC	MAX3483E
ADM3485E	3	12 Mbps	Half	32	Yes	Open	8-lead SOIC	MAX3485E
ADM3486E	3	2.5 Mbps	Half	32	Yes	Open	8-lead SOIC	MAX3486E
ADM3488E	3	250 kbps	Full	32	No	Open	8-lead SOIC	MAX3488E
ADM3490E	3	12 Mbps	Full	32	No	Open	8-lead SOIC	MAX3490E
ADM3491E	3	12 Mbps	Full	32	Yes	Open	14-lead SOIC	MAX3491E
ADM483E	5	250 kbps	Half	32	Yes	Open	8-lead DIP, 8-lead SOIC	MAX483E

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Standard RS-485/RS-422 Transceivers

Part Number	V <sub>CC</sub> (V)	Data Rate	Half-/Full-Duplex	Nodes on Bus	Driver/Receiver Enable	Fail-Safe	Package	Second Source
ADM3483	3	250 kbps	Half	32	Yes	Open	8-lead SOIC	MAX3483
ADM3485	3	10 Mbps	Half	32	Yes	Open	8-lead SOIC	MAX3485
ADM3488	3	250 kbps	Full	32	No	Open	8-lead SOIC	MAX3488
ADM3490	3	10 Mbps	Full	32	No	Open	8-lead SOIC	MAX3490
ADM3491	3	10 Mbps	Full	32	Yes	Open	14-lead SOIC	MAX3491
ADM3493	3	250 kbps	Half	256	Yes	Open	8-lead SOIC	—
ADM4850	5	115 kbps	Half	256	Yes	Open, Short	8-lead SOIC, 8-lead LFCSP	—
ADM4851	5	500 kbps	Half	256	Yes	Open, Short	8-lead SOIC, 8-lead LFCSP	—
ADM4852	5	2.5 Mbps	Half	256	Yes	Open, Short	8-lead SOIC, 8-lead LFCSP	—
ADM4853	5	10 Mbps	Half	256	Yes	Open, Short	8-lead SOIC, 8-lead LFCSP	—
ADM4854	5	115 kbps	Full	256	No	Open, Short	8-lead SOIC	—
ADM4855	5	500 kbps	Full	256	No	Open, Short	8-lead SOIC	—
ADM4856	5	2.5 Mbps	Full	256	No	Open, Short	8-lead SOIC	—
ADM4857	5	10 Mbps	Full	256	No	Open, Short	8-lead SOIC	—
ADM483	5	250 kbps	Half	32	Yes	Open	8-lead SOIC	MAX483
ADM485	5	5 Mbps	Half	32	Yes	Open	8-lead PDIP, 8-lead SOIC, 8-lead MSOP	—
ADM1485	5	30 Mbps	Half	32	Yes	Open	8-lead PDIP, 8-lead SOIC, 8-lead MSOP	—
ADM1486	5	30 Mbps	Half	50	Yes	Open	8-lead SOIC	—
ADM488	5	250 kbps	Full	32	No	Open	8-lead PDIP, 8-lead SOIC	MAX488
ADM489	5	250 kbps	Full	32	Yes	Open	14-lead DIP, 14-lead SOIC, 16-lead TSSOP	MAX489

2.5 kV, iCoupler Isolated RS-485/RS-422 Transceivers

Part Number	Integrated Transformer Driver	Data Rate	Half-/Full-Duplex	V <sub>DD1</sub> (V)	V <sub>DD2</sub> (V)	Nodes on Bus	Driver/Receiver Enable	Fail-Safe	Package
ADM2483	No	500 kbps	Half	3 or 5	ISO 5	256	Yes	Open, Short	Wide-body, 16-lead SOIC
ADM2486	No	20 Mbps	Half	3 or 5	ISO 5	50	Yes	Open	Wide-body, 16-lead SOIC
ADM2490E	No	16 Mbps	Full	3 or 5	ISO 5	32	No	Open	Wide-body, 16-lead SOIC
ADM2485	Yes	16 Mbps	Half	3 or 5	ISO 5	50	Yes	Open	Wide-body, 16-lead SOIC

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