



DIGITAL ISOLATORS

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WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

AGENDA

Contents

- **Technology**
 - Principles.
 - Standards and parameters.
 - Digital Isolator vs. Optocoupler.
- **Applications**
 - Data interfaces.
 - PCB Design.
- **WE Portfolio**
 - Articles.
 - Support and Advantages.
- **Demo Setup**

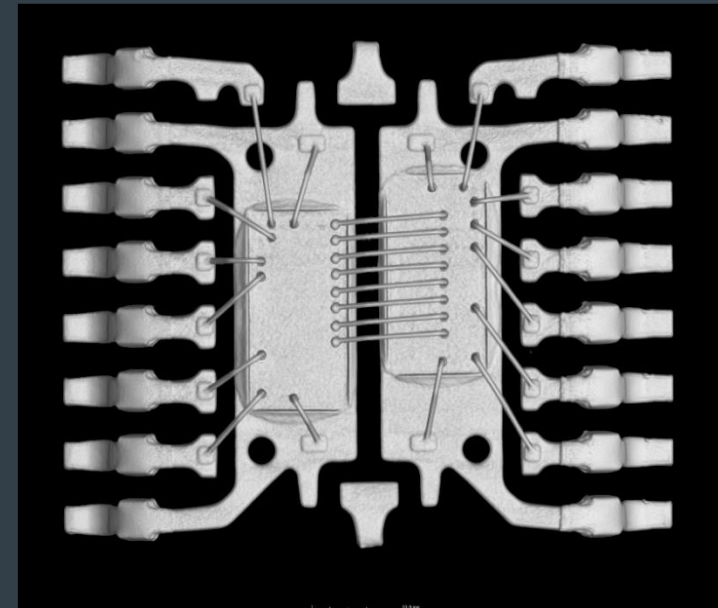
* Some presentation images have clickable web links



TECHNOLOGY

OVERVIEW

Digital Isolator



INTRODUCTION

Use-case

Example scenario 1:

In large or complex CAN networks, different nodes - individual electronic devices or modules connected to the bus that communicate with each other - may **have varying ground potentials**. If these nodes share a direct electrical ground, **ground loops** can form, causing **unwanted currents** that **interfere** with communication and lead to **data corruption**.

Example scenario 2:

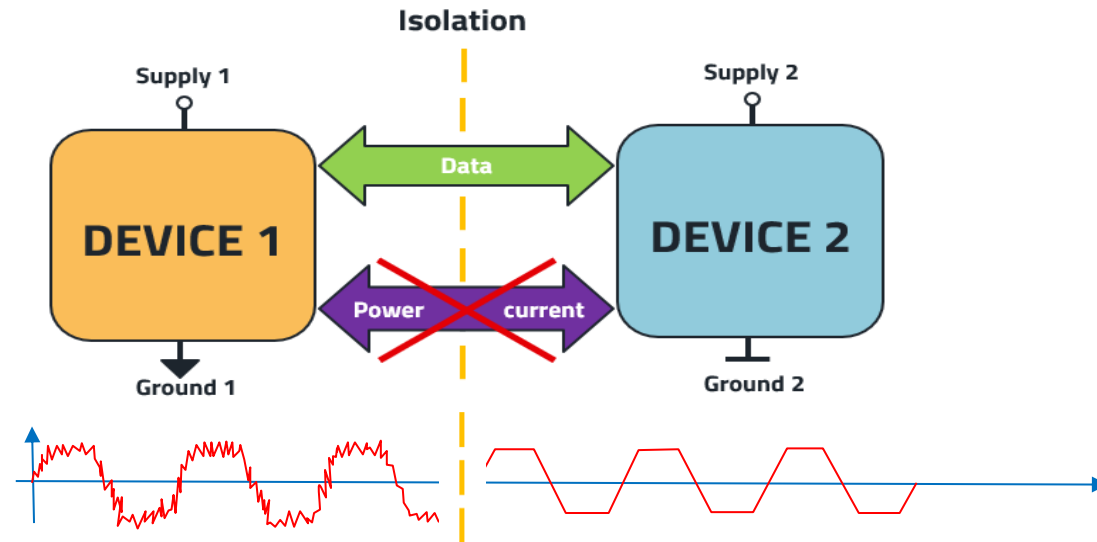
In environments with motors, inverters, or other high-power electronics, electromagnetic interference (EMI) can disrupt RS-485 signals. It can also experience **voltage spikes** caused by **power fluctuations** in industrial environments, **lightning strikes**, or **switching of large electrical loads**. Although it uses differential signaling, this alone may not be sufficient under extreme conditions and long distance wired communication. **Surges** can **disrupt** communication, **damage** sensitive electronic components, and lead to **system failures**.



INTRODUCTION

Why we need isolation?

- **Two major challenges in electronics environment.**
 - Interference-free data communication.
 - Personnel and product safety.
- **Galvanic isolation** – used to separate electrical zones with different potentials, no direct conduction path.
 - Goal is transferring signal without unwanted current flowing between two circuits.
 - Prevents electric shocks for end users especially with different ground references.



DIGITAL ISOLATOR

Why we need isolation?

Digital isolators perform the essential function of **electrically isolating circuits** while **ensuring the smooth transfer of data** between different parts of the system.

Security / Safety

- You need a galvanic isolation for safety (electrical shock, overvoltage)
- Devices operated from mains, applications with direct patient contact

Measurements

- You need a galvanic isolation for measurements (hum loops)
- Different current loops / electrical grounding
- The data must be recorded from the object in such a way that the probe does not influence the quantity being measured as precise as possible.

Electromagnetic Disturbances

You need a galvanic isolation to avoid or prevent EMC issues.

CAPACITIVE TECHNOLOGY

Design Principle

■ Primary Side / Transmitter

a) Modulator

- Signal transmission through the isolation barrier is realized by on/off keying (OOK) – e.g. presence of carrier signal is bit 1, without carrier signal is 0.

b) Oscillator

- used to modulate the Schmitt-triggered input signal.

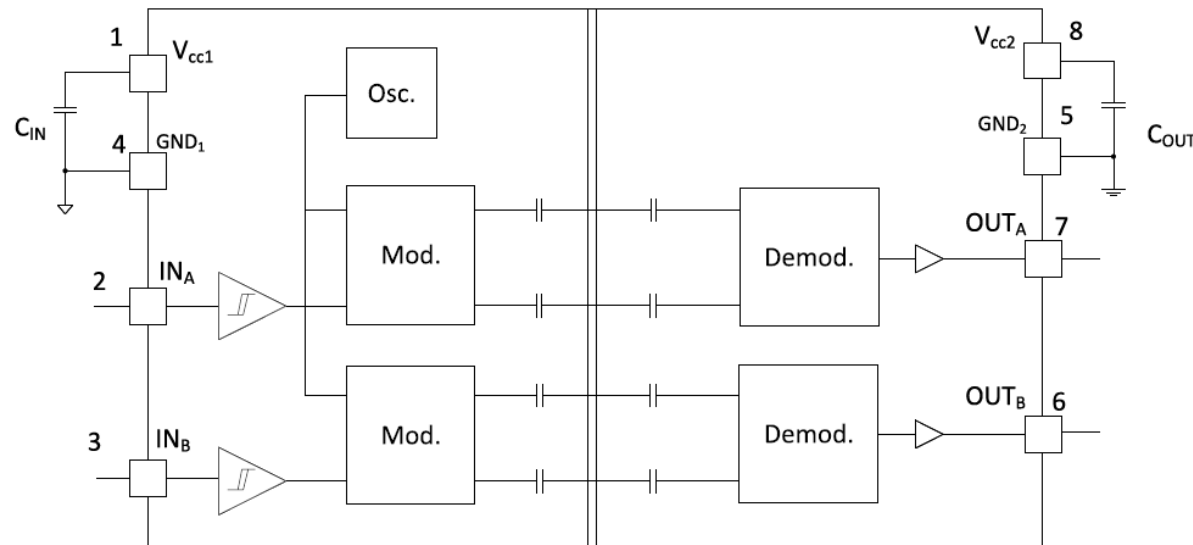
■ Secondary Side / Receiver

a) Demodulator

- is used to pre-amplify, filter and reconstruct the input signal.

b) Buffer

- amplifies the signal to the required level.

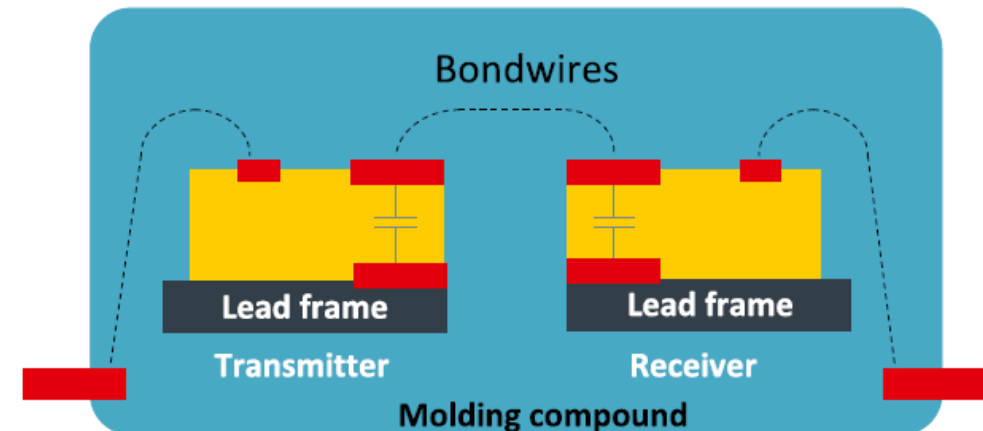


CAPACITIVE TECHNOLOGY

Construction and Features

- Manufactured using standard **CMOS** technology.
- The capacitors of the transmitter and the receiver are deposited on a **lead frame**.
- The dielectric material between the capacitor plates serves as a **galvanic isolation barrier**.
- **SiO₂** is used as the insulating material as it has much higher dielectric strength of 500 MV/m (vs. Polyimide), means that it requires **considerably less space** for the isolating gap.
- The two capacitors are **wire-bonded** in series.
- To protect the entire structure, the die and lead frame are molded using a **standard IC assembly** process.

- **Highlights**
 - Can accommodate high speed data transfer.
 - Compact design.
 - Low power consumption.
 - Low sensitivity to magnetic field and RF noise.
 - Less expensive.



Basic structure of a capacitive digital isolator IC.

KEY PARAMETERS

Datasheet information

- **Data rate**
 - The number of bits that are conveyed or processed per second.
- **Isolation voltage**
 - Voltage level (in kV) that can be insulated for a period of time. One example is 60 seconds.
- **Surge voltage**
 - Short time sudden voltage increase can be insulated by isolator.
- **Propagation delay**
 - is the time it takes for a signal to pass through the internal circuits and structure of a digital isolator from input to output.
- **Common Mode Transient Immunity (CMTI)**
 - Max rate of rise/fall of common mode voltage transients that the two isolated circuits can tolerate ensuring function integrity.
- **Default output**
 - Predefined state of output pin when the input channel of isolator is unpowered or not connected. Low or high.

18014x15401x

Digital Isolator

WPME-CDIS - Capacitive Digital Isolator Standard



4 Channel Digital Isolator

DESCRIPTION

The CDIS 18014x15401x is a 4 channel digital isolator series that provides capacitive isolation between the primary and secondary sides of the device.

The digital isolator requires two supply voltages, one for the primary side and one for the secondary side.

The CDIS digital isolator ensures fast time to market and low development costs.

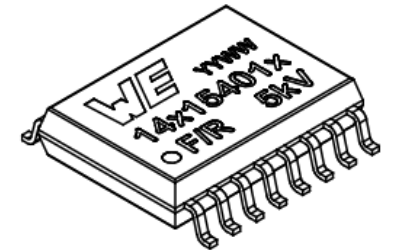
The digital isolator is available in an SOIC-16WB package (10.3 x 10.3 x 2.65)mm.

TYPICAL APPLICATIONS

- Isolated communication interfaces (SPI, CAN, RS-232, RS-485)
- Motor control
- Battery management systems
- Solar inverters
- Test and measurement systems
- Programmable logic controller (PLC) interfaces

FEATURES

- Reinforced isolation: 5kV_{RMS} for 60s
- Input voltage range: 2.375V to 5.5V
- Data rate up to 150Mbps
- $\pm 150\text{kV}/\mu\text{s}$ typ. CMTI
- Available channel configurations: 4/0, 3/1 and 2/2
- Default channel output status: high or low
- Low propagation delay: 12ns typ.
- Ambient temperature range: -40°C to 125°C
- RoHS and REACH compliant
- UL1577 recognized
- DIN EN IEC 60747-17 (VDE 0884-17):2021-10 certified



Click here for parameter details in the WE App note ANS021.

ISOLATION SPECIFICATIONS

Safety Standards

- The primary function of digital isolators is to ensure the safety of **equipment** and **people**.
- **Isolation is required**, whenever different voltage levels can damage sensitive circuitry or injure a person.
- International safety standards **regulate the testing** of isolation voltage and many other isolation characteristics.
- **All standards** provide methods, parameters and requirements for testing.

International	Germany	US
IEC 60747-17	DIN EN IEC 60747-17 (VDE 0884-17)	UL 1577
The first international standard for digital isolators	German version of international IEC 60747-17 standard	Standard for optocouplers. Digital Isolators are allowed to be certified according to this standard

ISOLATION SPECIFICATIONS

Safety Standards

- **DIN EN IEC 60747-17 (VDE 0884-17):2021-10**
 - **Maximum Working Isolation Voltage (V_{IOWM})**
 - defines the maximum **continuous working** voltage that can be applied to the isolation barrier **continuously over the lifetime** of a digital isolator without degrading its functionality, which is defined as **RMS-** or DC-voltage.

- **Maximum Repetitive Peak Isolation Voltage (V_{IORM})**
 - This is the maximum **repetitive peak** voltage that can be **continuously applied** to the isolation barrier **over the lifetime** of a digital isolator without reducing its functionality, which is defined as a **peak** value.

- **Maximum Transient Isolation Voltage (V_{IOTM})**
 - This is the maximum peak voltage that can be applied to the isolation barrier **for 60 seconds**. The characteristic is defined as a **peak** voltage value.

- **Maximum Surge Isolation Voltage (V_{IOSM})**
 - A maximum **instantaneous value** of a voltage pulse (1.2/50 μ s waveform) that an isolator can tolerate, which is defined as a **peak** voltage value.

- **UL 1577**
 - **Maximum withstanding isolation voltage $V_{ISO(max)}$**
 - Defines the isolation barrier must withstand a certain level of **RMS AC voltage (V_{ISO}) for 60 seconds**.

18024x15401x
Digital Isolator
 WPME-CDIP - Capacitive Digital Isolator Powered



9 APPROVALS

Table 12: Approvals.

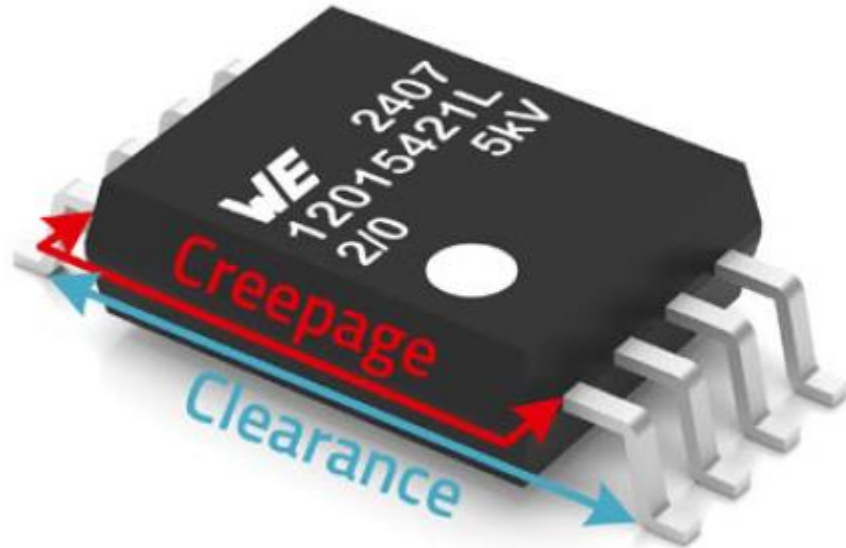
STANDARD		DESCRIPTION		
UL 1577		UL File No: E535458		
DIN EN IEC 60747-17 (VDE 0884-17):2021-10		VDE certification number: 40058069		
DIN EN IEC 60747-17 (VDE 0884-17):2021-10				
V_{IORM}	Max. repetitive peak isolation voltage	AC voltage (bipolar)	14 14	V_{PK}
V_{IOWM}	Max. working isolation voltage	AC voltage; Time-dependent dielectric breakdown (TDDb) test	1000	V_{RMS}
		DC voltage	14 14	V_{DC}
V_{IOTM}	Max. transient isolation voltage	$V_{TEST} = V_{IOTM}$, t = 60s (qualification); $V_{TEST} = 1.2 \times V_{IOTM}$, t = 1s (100% production)	7070	V_{PK}
V_{IOSM}	Max. surge isolation voltage	Test method per IEC 60065, 1.2/50 μ s waveform, $V_{TEST} = 1.6 \times V_{IOSM}$ (qualification)	7070	V_{PK}
UL1577				
$V_{ISO(max)}$	Max. withstanding isolation voltage	$V_{TEST} = V_{ISO}$, t = 60s (qualification), $V_{TEST} = 1.2 \times V_{ISO}$, t = 1s (100% production)	5000	V_{RMS}

ISOLATION SPECIFICATIONS

Additional Information

▪ Clearance

- is the **shortest distance** through **air** between input and output terminals of an isolator.



▪ Creepage

- is the **shortest distance** across the **surface** of the package between two conductive parts of an isolator.

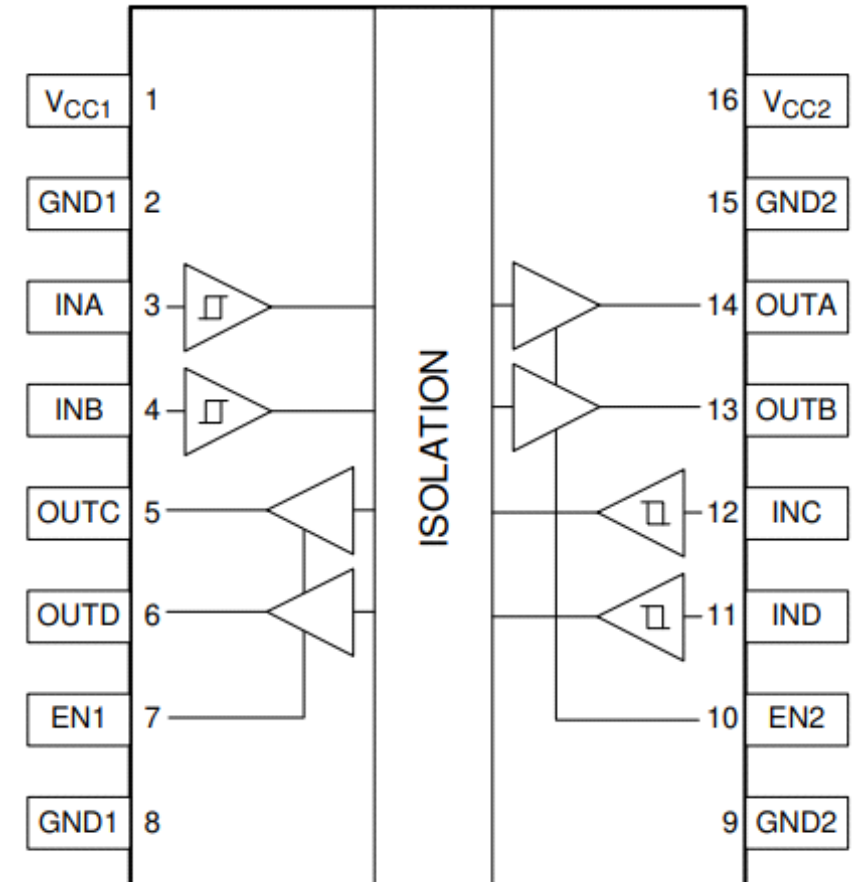
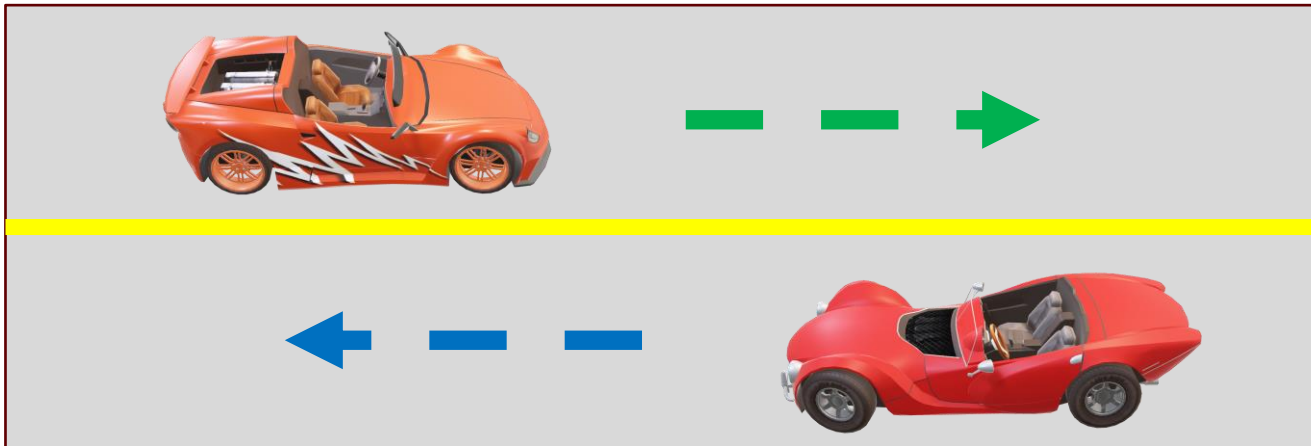


Creepage and Clearance distance is 8 mm for digital isolators in SOIC-16WB and SOIC-8WB packages. And 4 mm for isolators in SOIC-8NB package.

CHANNELS

Configurations

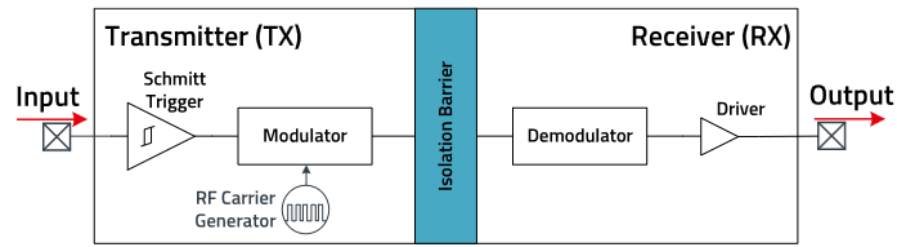
- **Direction**
 - No. of **Forward>>** / No. of **Reverse<<**
 - 1/1, 2/0, 2/2, 3/1, 4/0
- **Number of channels**
 - 1/1, 2/0 = **2** channels
 - 2/2, 3/1, 4/0 = **4** channels



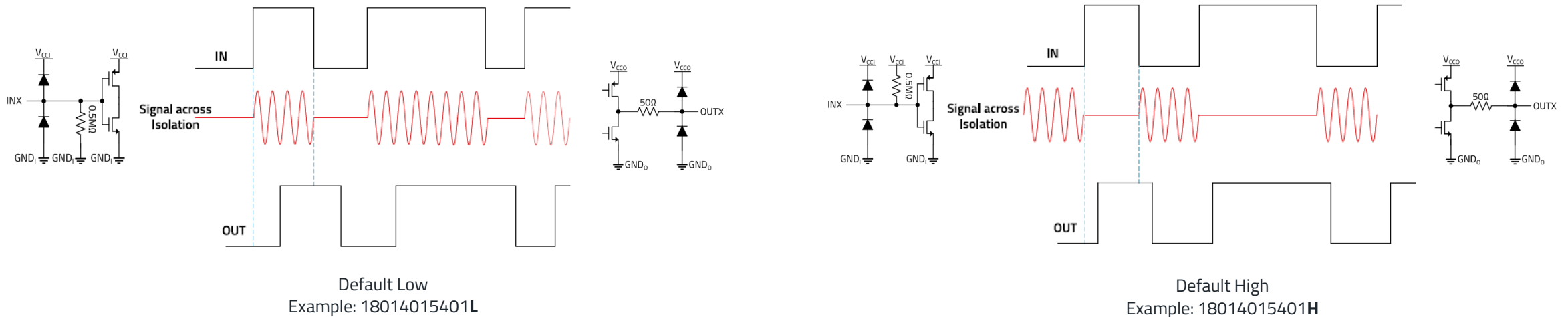
4 channels: 2/2 configuration

DEFAULT OUTPUTS

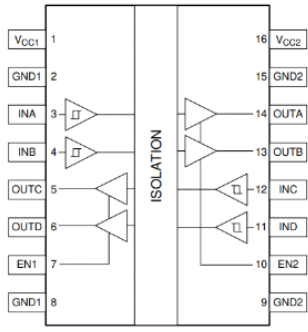
Function and Purpose



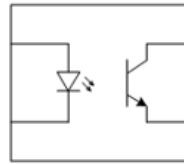
- is a **predefined state of the output signal pin** when the input side of the isolator is not powered, or the input signal pin is open/not connected.
- **Low** – The **modulator transmits high-frequency signals** through the isolation barrier only **when the input has a high signal level**. This is preferred for use in power supplies, like in SMPS, to isolate gate drivers for safety reasons.
- **High** – the **modulator transmits high-frequency signals** through the isolation barrier only **when the input has a low signal level**. Typically for communication interfaces, default high output is preferred as signal lines are defined as high logic level during idle/standby state.



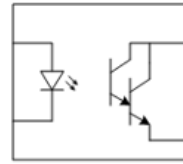
DIGITAL ISOLATORS VS. OPTOCOUPPLERS



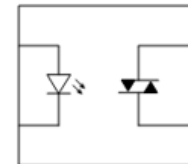
VS.



Phototransistor



Darlington



Triac



2x DI 4-ch



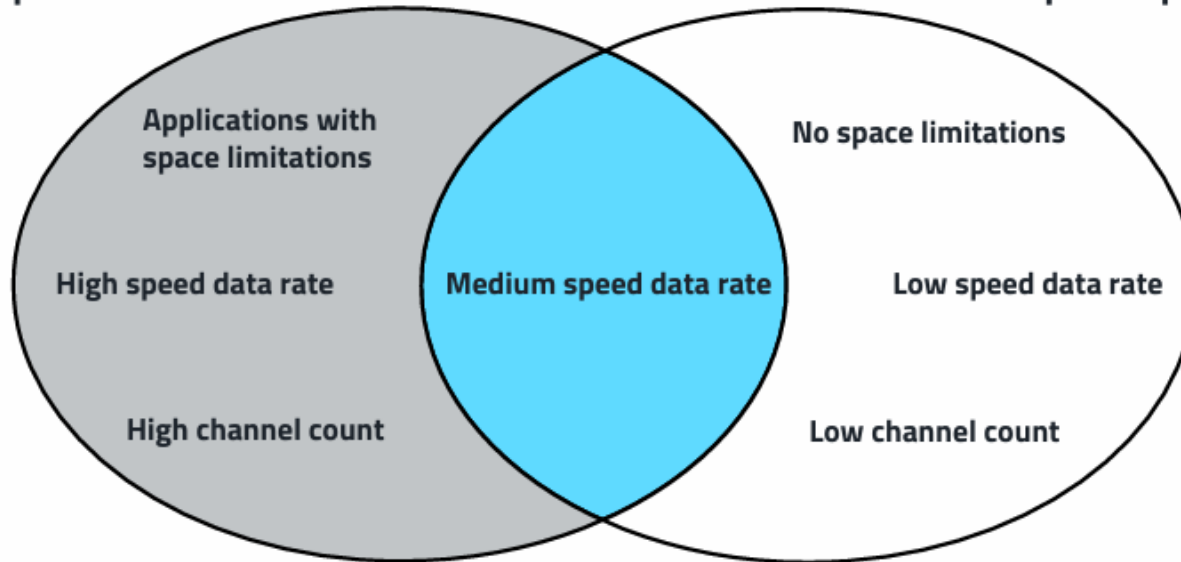
4x DI 2-ch



8x OC 1-ch

Digital isolator preferred

Optocoupler preferred

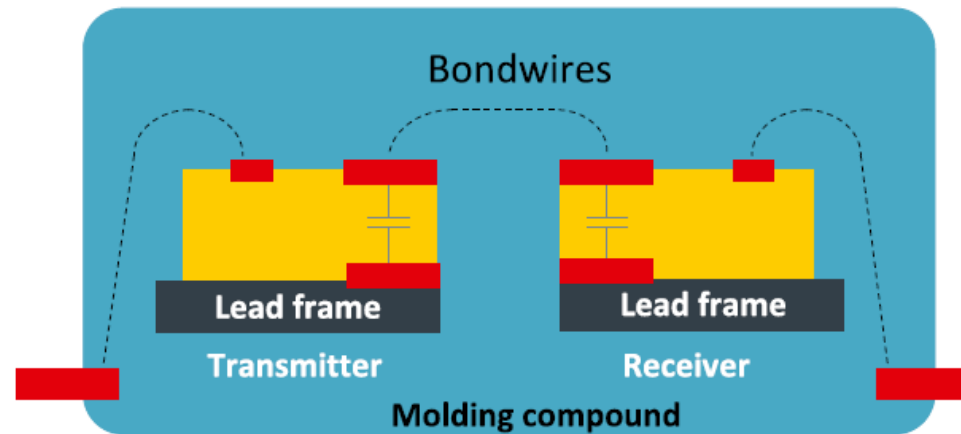


8-channel isolation requirement

QUESTION #1

WE Digital Isolators are based on what technology?

- a) Optical
- b) Magnetic
- c) Capacitive ✓
- d) Radioactive



Basic structure of a capacitive digital isolator IC.

APPLICATIONS

Digital Isolator



APPLICATIONS

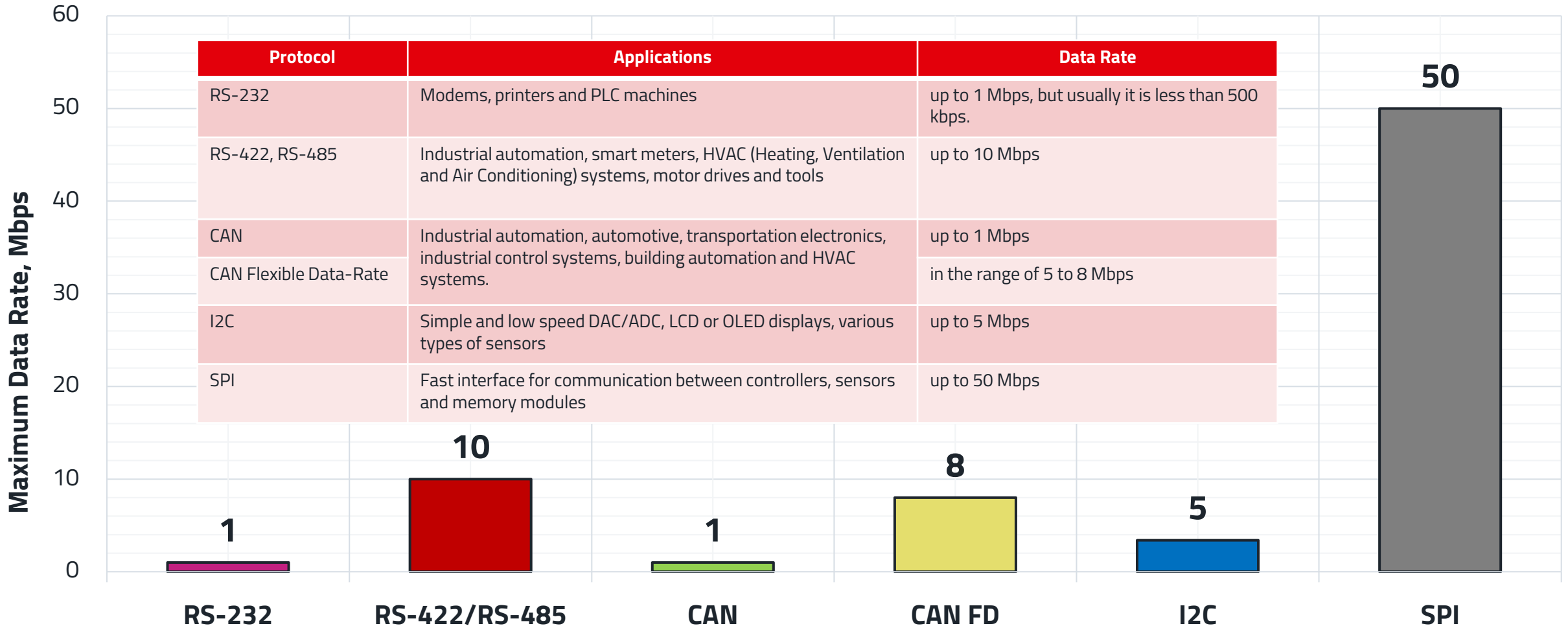
Typical Systems

- Electricity meters, grid
- Relay protection units
- Lighting
- Motors and drivers
- Power supply
- Medical equipment
- Test and measurements, data acquisition
- Industrial field (RS-485, CAN, SPI isolation)
- Green energy



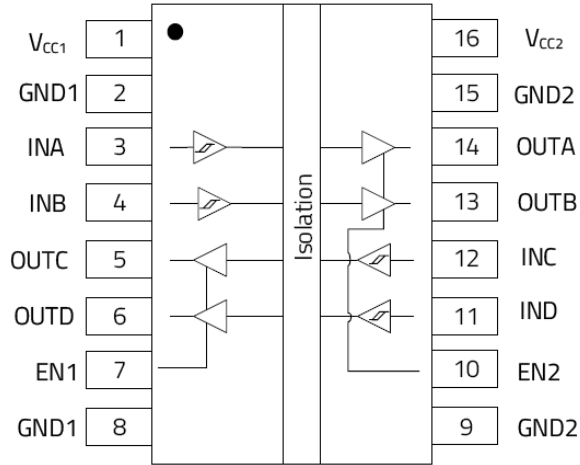
TIMING CHARACTERISTICS

Most Popular Interfaces on the Market and Maximum Data Rate



MARKET TREND

Variants



Without integrated DC/DC converter

- Low price
- More flexible solution
- The most common on the market

Digital Isolators

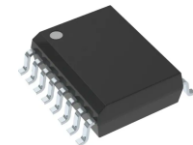
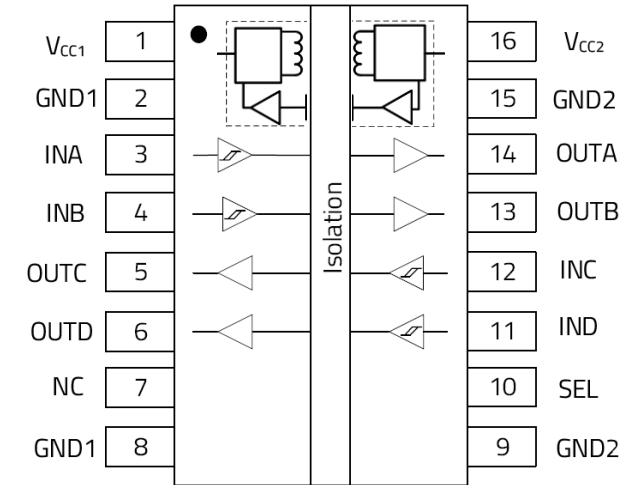
Isolation Voltage
2500V/3000V/3750V/5000V/5700V

Number of channels
1 ch/2 ch/3 ch/4 ch/5 ch/6 ch

Channels Configuration
4/0, 3/1, 2/2, 1/3, 0/4 (example for 4 ch DI)

Data Rate
1 Mbps - 150 Mbps

Package
SO-8 NB, SO-16 WB, SO-8 WB, SO-16 NB

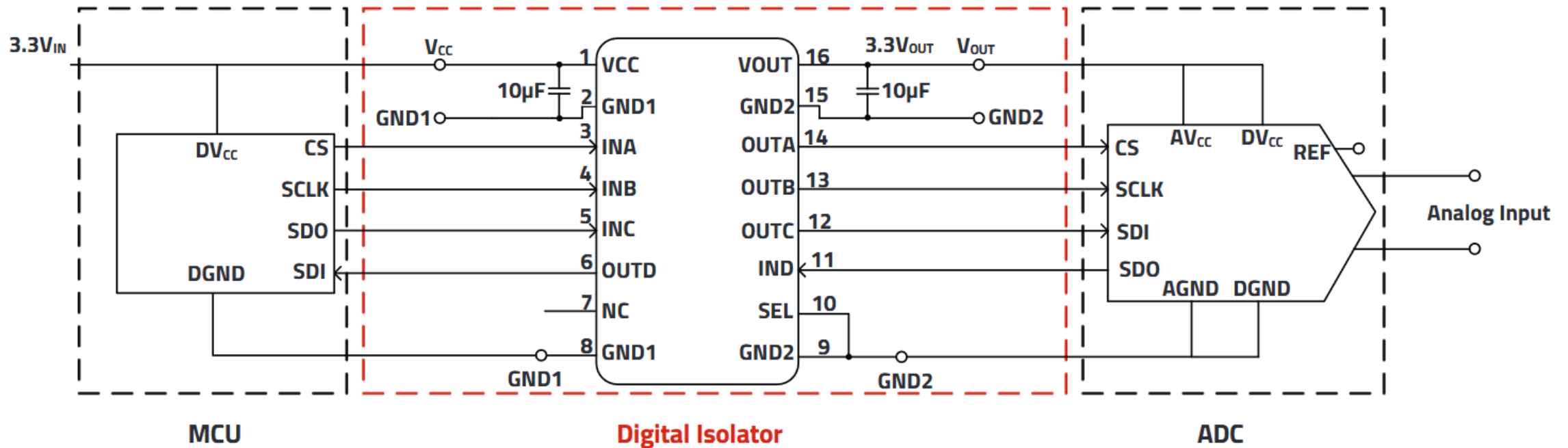


With integrated DC/DC converter

- Less space on PCB
- Easier to use
- DC/DC compliance to EMC standards

SAMPLE APPLICATION

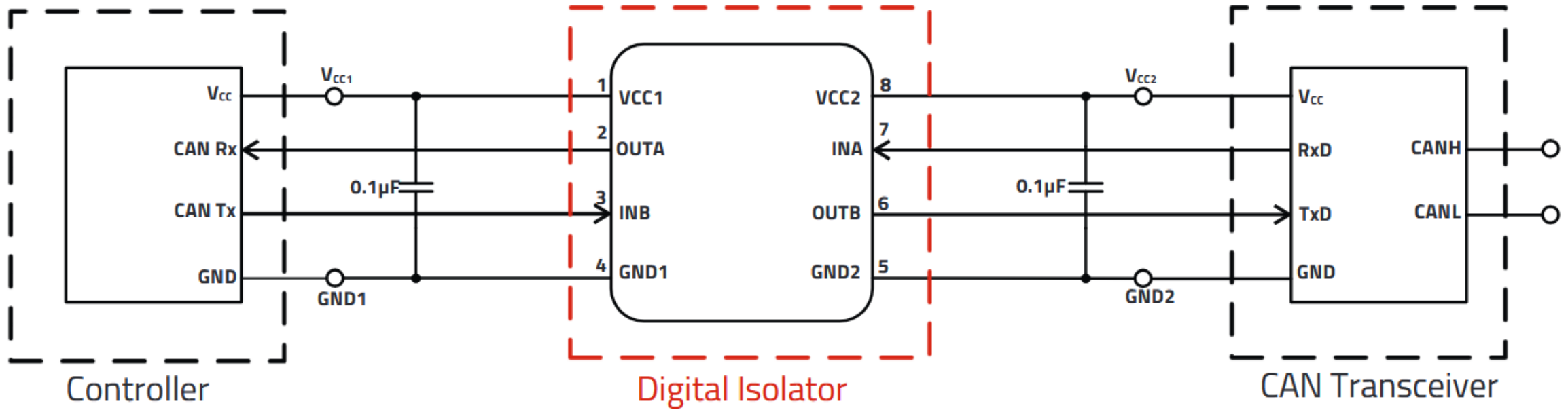
SPI and ADC



Recommended part number: 18024115401H (SOIC-16WB)

SAMPLE APPLICATION

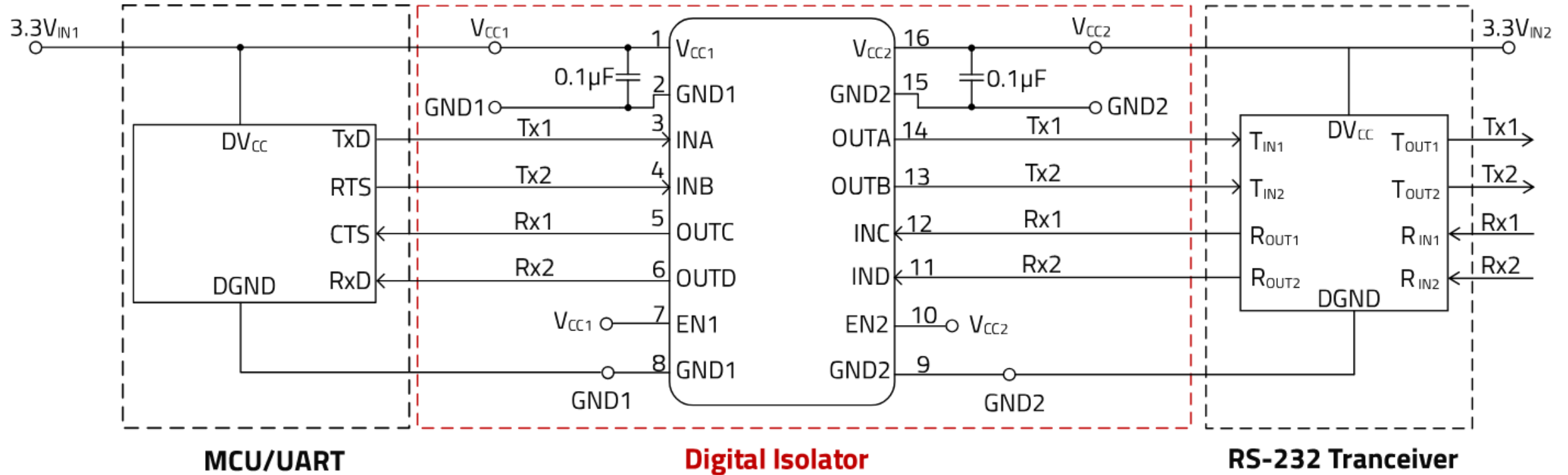
Controlled Area Network (CAN)



Recommended part numbers: 18012115411H (SOIC-8NB) or 18012115421H (SOIC-8WB)

SAMPLE APPLICATION

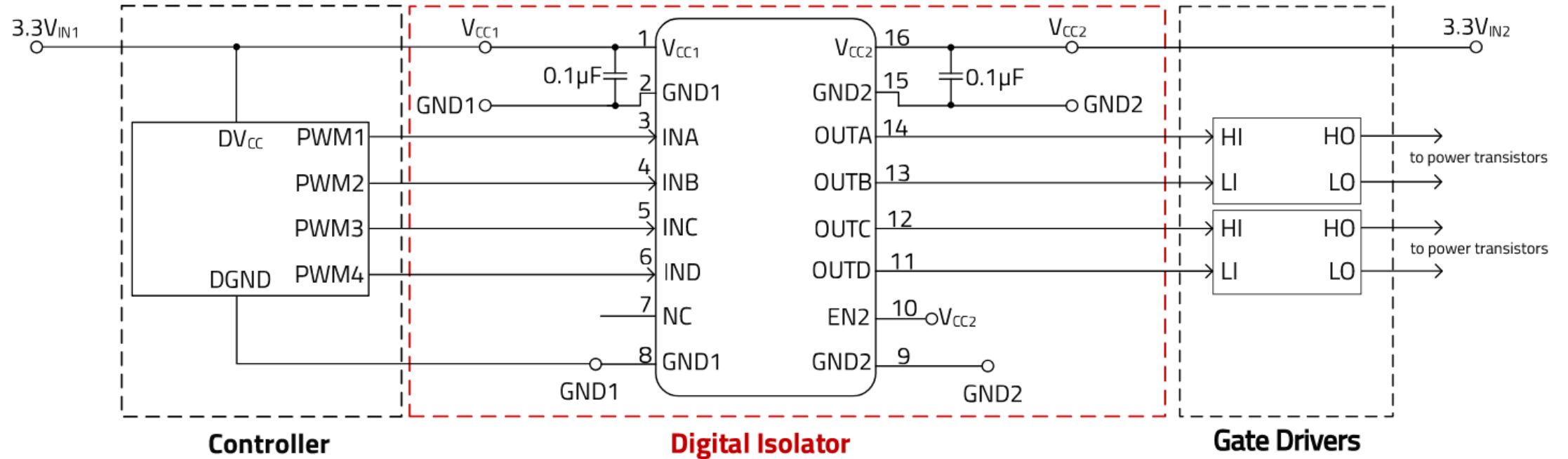
RS-232



Recommended part number(s): 18014215401H

SAMPLE APPLICATION

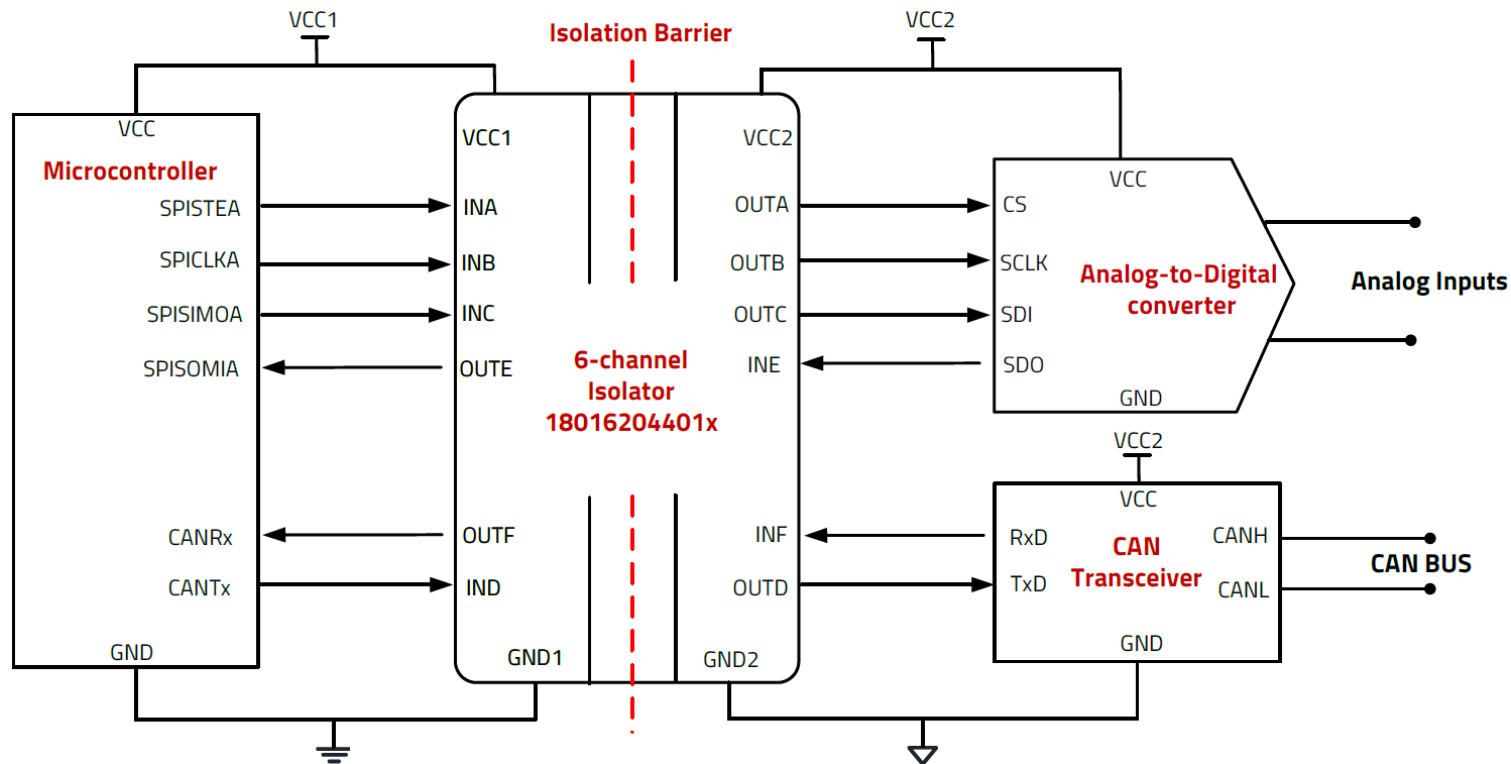
Gate Drivers



Recommended part number(s): 18012015421L, 18014015401L

SAMPLE APPLICATION

Isolation of SPI and CAN Interfaces for Industrial Automation



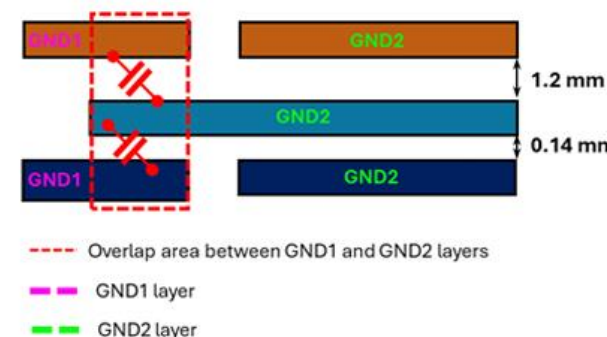
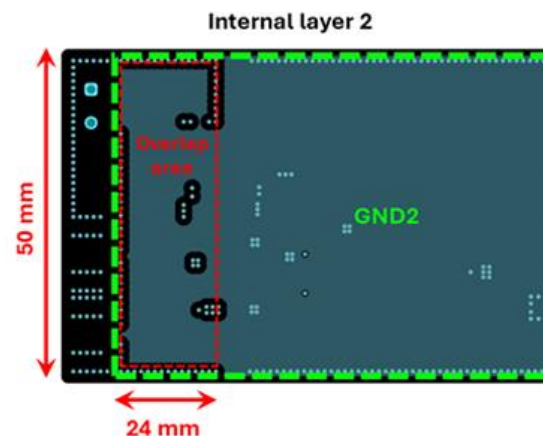
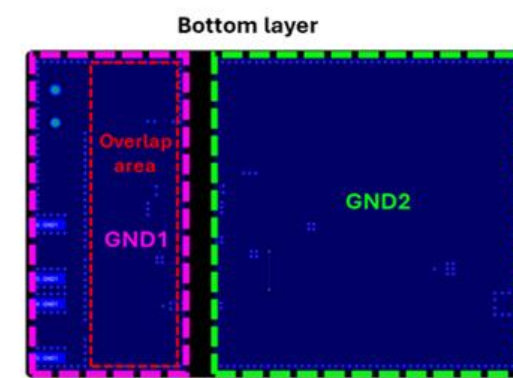
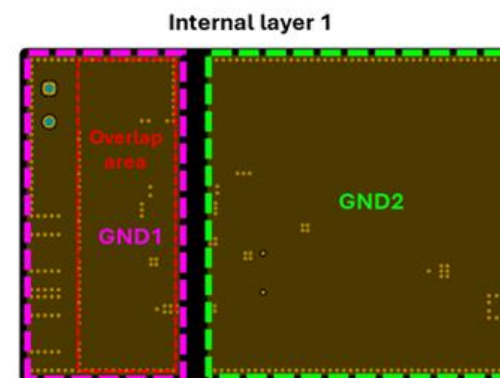
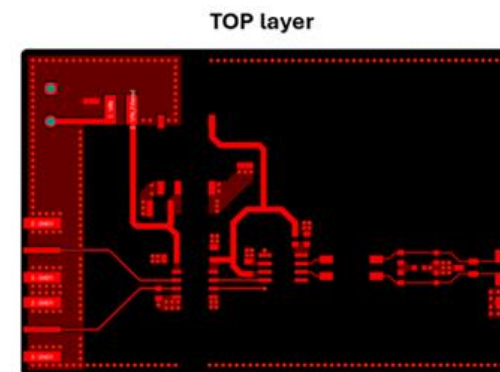
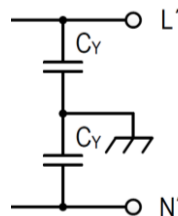
Benefits of 6-Channel Digital Isolators:

- Supports complex systems with multiple interfaces (e.g., SPI + CAN)
- Saves board space in compact designs
- Lowers BOM cost and simplifies inventory
- Improves signal integrity with fewer interconnects
- Simplifies assembly and testing

PCB DESIGN

Stitching Capacitance

- This is an approach **to utilize the parasitic capacitance between PCB layers** – as an integrated **Y-capacitor**. This technique creates a high-frequency return path for common-mode noise, **helping to reduce EMI without the need for additional components**.
- Example: a 4-layer PCB structure. The stitching capacitance is **formed by overlapping copper areas across different PCB layers** - specifically between internal layer 1, internal layer 2 and the bottom layer.



$$C = \frac{\epsilon_0 \cdot \epsilon_r \cdot A}{d}$$

C is the stitching capacitance in farads (F)

ϵ_0 is the vacuum permittivity, approximately $8.854 \cdot 10^{-12}$ F/m

ϵ_r is the relative dielectric constant of the PCB material (typically 4-5, as provided by the manufacturer)

A is the overlapping area of the planes in square meters (m²)

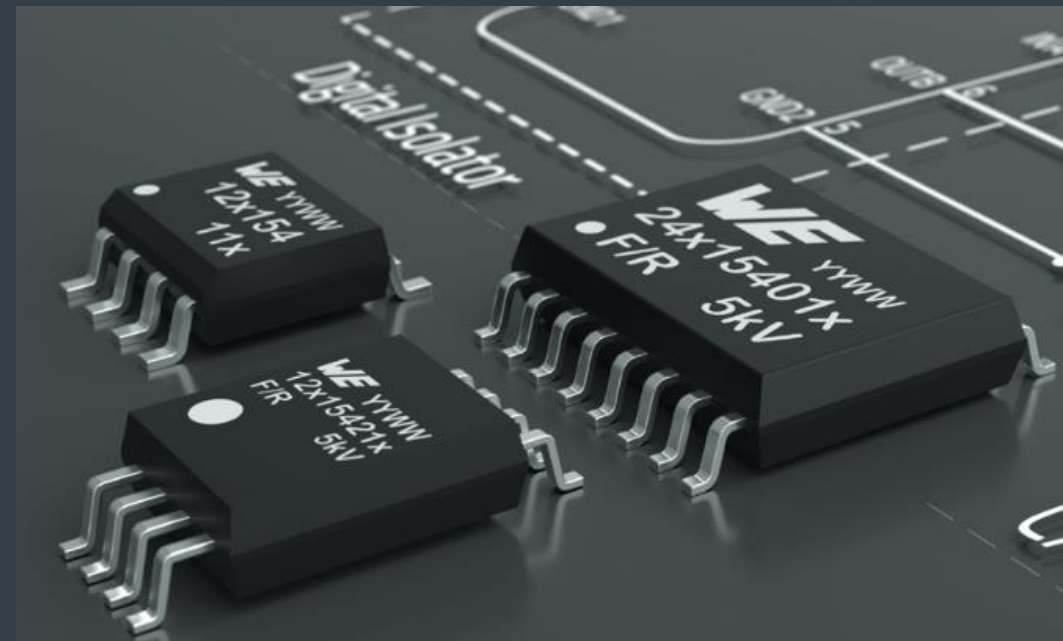
d is the distance between the planes (dielectric thickness) in meters (m)

Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.010mm	SM-001	Solder Mask	GTS
CF-004	TOP	0.035mm		Signal	GTL
Prepreg		0.070mm	PP-010	Dielectric	
Prepreg		0.070mm	PP-010	Dielectric	
Copper	IN1	0.035mm		Signal	G1
		1.200mm	FR-4	Dielectric	
Copper	IN2	0.035mm		Signal	G2
Prepreg		0.070mm	PP-010	Dielectric	
Prepreg		0.070mm	PP-010	Dielectric	
CF-004	BOTTOM	0.035mm		Signal	GBL
Surface Material	Bottom Solder	0.010mm	SM-001	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

Total thickness: 1.640mm

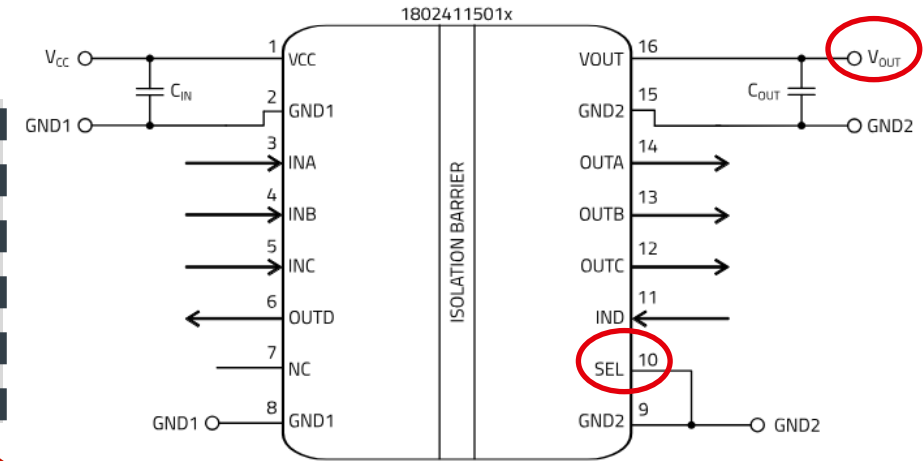
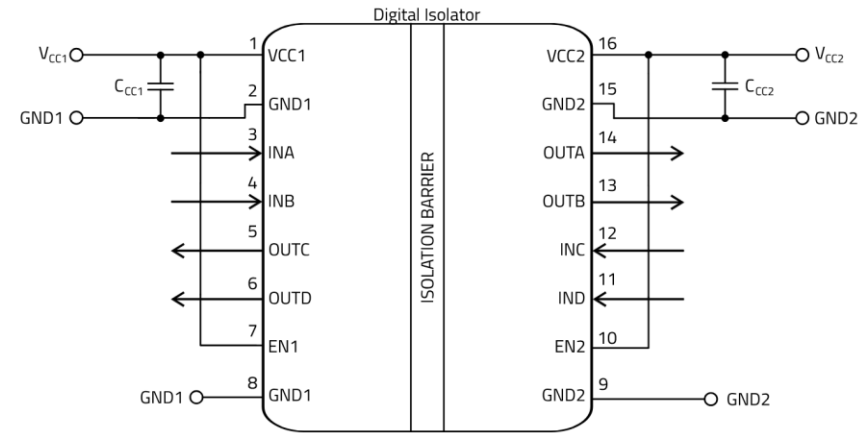
WE PORTFOLIO

Digital Isolator



WE PORTFOLIO

Product Overview



without integrated power

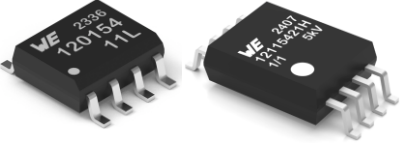
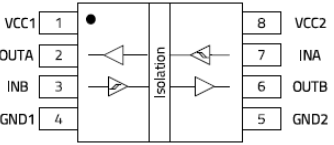
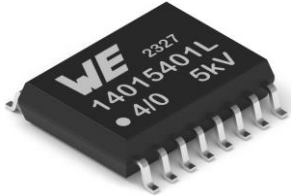
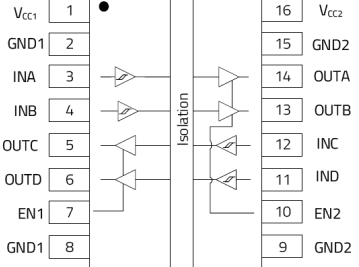
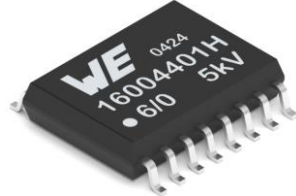
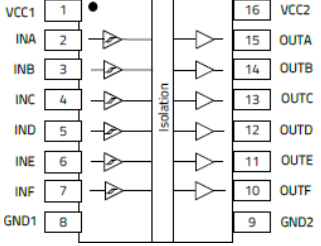
with integrated power



WE PORTFOLIO

2-, 4- and 6-Channel Digital Isolators **WITHOUT** Integrated DC/DC Converters



2-channel isolators	4-channel isolators	6-channel isolators
<p>WPME-CDIS</p>  	<p>WPME-CDIS</p>  	<p>WPME-CDIS</p>  
<ul style="list-style-type: none"> Isolation Voltage: 3.75kVrms & 5kVrms Basic & Reinforced isolation Channels configuration: 2/0 and 1/1 Default output: High and Low Data Rate: 150 Mbps Supply Voltage: 2.375V to 5.5V CMTI: ±150kV/μs Propagation Delay (typ.): 12ns Package: SOIC-8NB and SOIC-8WB 	<ul style="list-style-type: none"> Isolation Voltage: 5000Vrms for 60s Reinforced isolation Channels configuration: 4/0, 3/1, 2/2 Default output High and Low Data Rate: 150 Mbps Supply Voltage: 2.375V to 5.5V CMTI: ±150kV/μs Propagation Delay (typ.): 12ns Package: SOIC-16WB 	<ul style="list-style-type: none"> Isolation Voltage: 5000Vrms Reinforced isolation (pending) Channel configuration: 6/0, 5/1, 4/2, 3/3 Default output: High and Low Data Rate: 40Mbps Supply Voltage: 3V to 5.5V CMTI (typ.): ±150kV/μs Propagation Delay (typ.): 22ns Package: SOIC-16WB



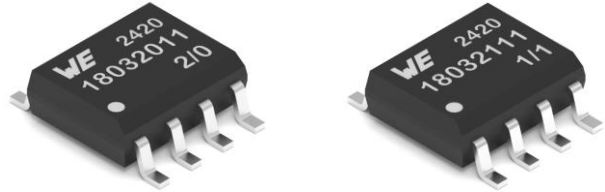
NEW PORTFOLIO

I²C Isolators

2-channel Bidirectional I²C Isolators

WPME-CDI2C

Capacitive Digital Isolator I²C








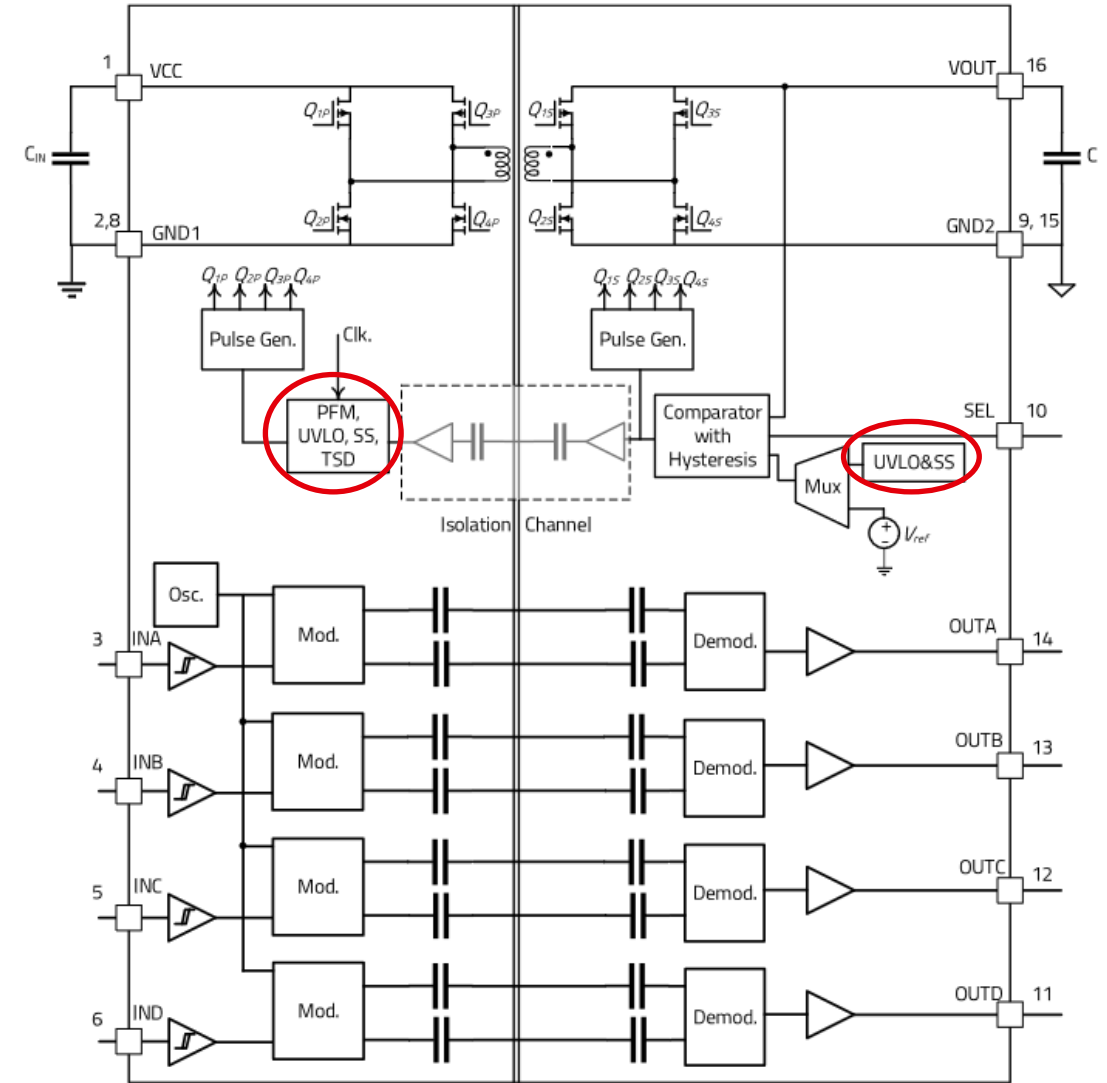
- Isolation voltage: **3750Vrms**
- **Basic isolation**
- **Without integrated DC/DC converters**
- Channel configuration: **2B/0U** and **1B/1U**
- Bidirectional data transfer: **up to 2MHz**
- Supply voltage: **3V to 5.5V**
- Ambient temperature: **-40°C to + 125°C**
- Package: **SOIC-8NB**

Part number	18032011	18032111
Functional block diagram		
Channel configuration	<p>2B/0U: 2 bidirectional channels 0 unidirectional channels</p>	<p>1B/1U: 1 bidirectional channel 1 unidirectional channel</p>

MORE THAN YOU EXPECT

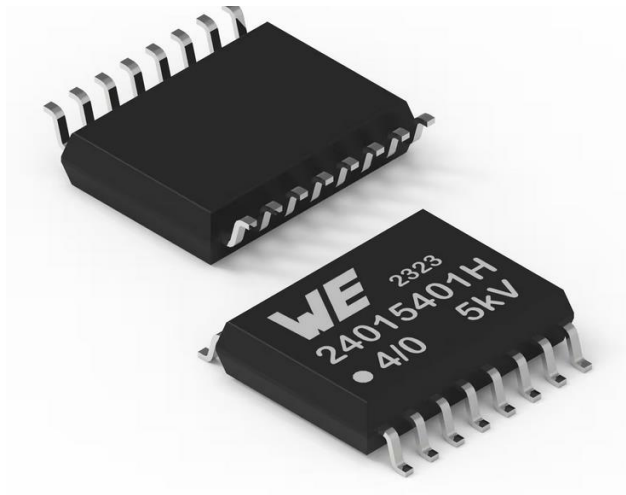
WE Protection and EMC Features

	<p>Overcurrent Protection During an overcurrent condition of the integrated DC/DC converter, the output current is limited.</p> <ul style="list-style-type: none"> ❖ Limits overheating of the device
	<p>Short-Circuit Protection The output voltage is continuously monitored and when it drops below a certain threshold, the PFM controller of integrated DC/DC converter stops switching.</p> <ul style="list-style-type: none"> ❖ Limits overheating of the device
	<p>Undervoltage Lockout The gating pulses for the secondary and primary side full bridges of integrated DC/DC converter are inhibited in the event of an input voltage below the recommended values.</p> <ul style="list-style-type: none"> ❖ Avoids undefined behavior of the integrated DC/DC converter during input voltage failures
	<p>Over Temperature Protection Turns off the integrated DC/DC converter when the junction temperature exceeds a dangerous limit.</p> <ul style="list-style-type: none"> ❖ Prevents catastrophic failures during accidental device overheating
	<p>Low Radiation The digital isolators with integrated DC/DC converter are compliant to the European standard: EN 55032 class B (CISPR 32) conducted and radiated.</p> <ul style="list-style-type: none"> ❖ Time saving design (with the reference layout specified in the data sheet)



WE PORTFOLIO

Component Marking



MARKING	DESCRIPTION
WE	Würth Elektronik eiSos GmbH & Co. KG
YYWW	Year and calendar week
14x15401x	Order code
F/R	Number of forward/reverse channels
5kV	5kV isolation voltage

QUESTION #2

What are the features of **WE** Digital Isolators?

- a) Standard IC packaging sizes.
- b) With and without integrated power.
- c) Up to 150 Mbps data rate.
- d) High or low default output.
- e) UVLO, OCP, OTP, and Soft-start.
- f) Approvals on safety standards.
- g) All of the above. ✓



WE

**MAKE THE
RIGHT CHOICE**

RELIABLE GALVANIC ISOLATION, SIMPLIFIED!

The new compact digital isolators are designed to provide a robust & safe isolation for high speed communication circuits. The isolators are available with and without integrated DC/DC converter. More on **REDEXPERT** & online catalogue.

WE SUPPORT

Digital Isolator

EASY AND FAST ACCESS TO ALL INFORMATION

WEBSITE

REDEXPERT

iOS APP
Download on the App Store

APPLICATIONS & INDUSTRIES GUIDES

REFERENCE GUIDES

EMC TEST LAB RACKS

RedExpert: www.we-online.com/redexpert

Download the Catalogue App of Würth Elektronik to access all product information on your mobile device: www.we-online.com/app

WE SUPPORT

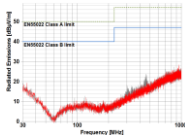
Benefits



Simple Design-In
→ “Me too” product



Competitive price, stock and forecasting

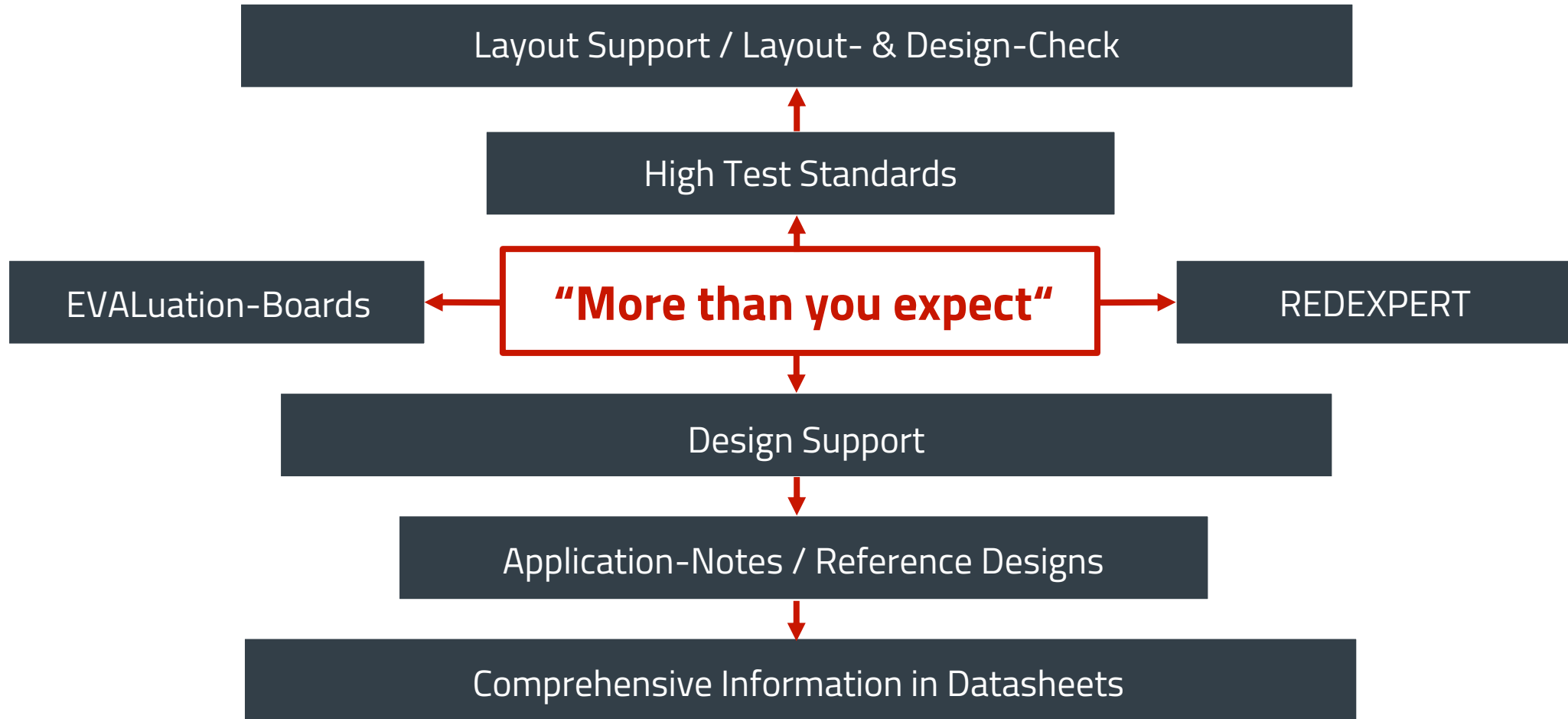


Options with and without integrated power; high and low default output state



Technical support

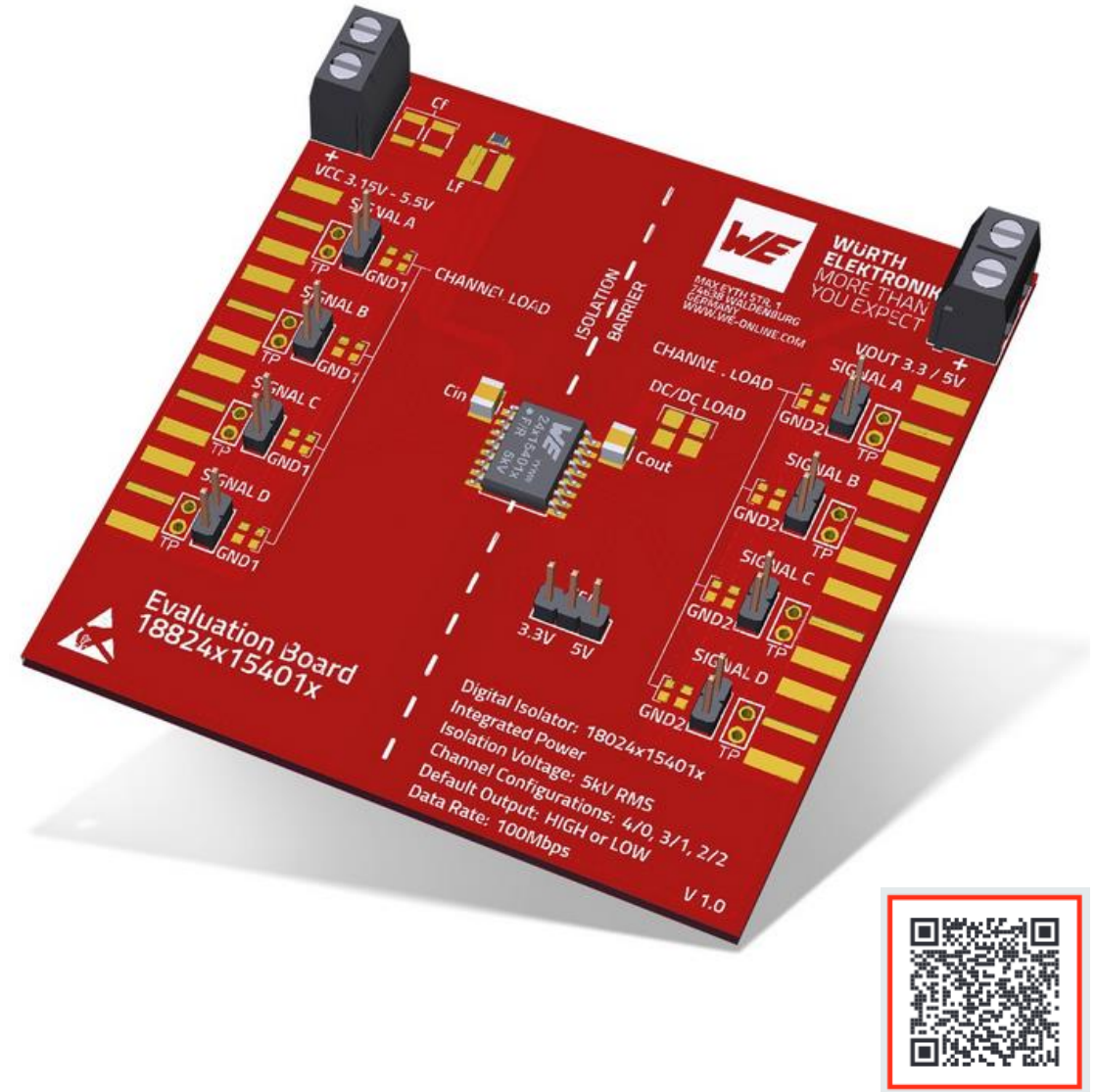
WE SUPPORT



DESIGN SUPPORT













Samples / Evaluation Kits

- For customers **we provide** component samples and evaluation boards.
- There is an evaluation board for **every isolator** with integrated power and bulk evaluation board without soldered isolator for unpowered Digital Isolator.



DESIGN SUPPORT

Component Libraries

	Order Code	Data-sheet	Simulation	Downloads	Status	V _{CC} min. (V)	V _{CC} max. (V)	Channel Configuration	t _{PLH} , t _{PHL} (ns)	DR (Mbps)
	18024015401H	SPEC		10 FILES	Active	3.15	5.5	4/0	10	100
	18024015401L	SPEC								100
	18024115401H	SPEC								100
	18024115401L	SPEC								100
	18024215401H	SPEC								100
	18024215401L	SPEC								100

EDA models: Components [ZIP](#)

- [ALT](#) Altium_WPME-CDIP (rev24a).IntLib | 182.5 KB
- [CDS](#) Cadence_WPME-CDIP (rev24a).zip | 592.7 KB
- [EAG](#) Eagle_WPME-CDIP (rev23a).lbr | 38.7 KB

CAD files [ZIP](#)

- [3D](#) 3D_CDIP_18024x15401x (rev1).pdf | 301.2 KB
- [IGS](#) IGS_CDIP_18024x15401x (rev1).igs | 3 MB
- [STP](#) STP_CDIP_18024x15401x (rev1).stp | 898 KB

Others [ZIP](#)

- [PDF](#) Wuerth_Digital_Isolators_VDE_Appendix_500Z1_(Reinforced_SOIC-8WB_SOIC-16WB) (rev1).pdf | 51.7 KB

Download all 10 files as zip archive [ZIP](#)



The screenshot displays the RedExpert website interface. The main header features the Würth Elektronik logo and the RedExpert title. A large banner advertises 'Precise determination of inductor loss with RED EXPERT'. Below this, there are two main navigation sections: 'Design Tools' and 'Product selection'. The 'Product selection' section is highlighted with a red box, and a red arrow points from the 'Signal & Communications' category in the main menu to the expanded dropdown menu.

Design Tools

- EMI Filter Designer
- Mag³C Power Module Designer
- Resonance Tank Calculation for Wireless Power
- Filter Circuits >
- DC/DC Converter >
- Wireless Connectivity and Sensors >
- Capacitor lifetime calculator
- Optoelectronics >
- Power Magnetics >

Product selection

- EMC Components
- Power Inductors and Magnetics
- Mag³C Power Products
- Signal & Communications
- Capacitors & Resistors
- Optoelectronics
- Quartz Crystals & Oscillators
- EMC Shielding & Grounding

Product selection dropdown:








- RF Inductors
- RJ45 LAN Transformers
- Signal Transformers
- Wireless Connectivity & Sensors
- RF Filters
- RF Balun
- RF Antennas
- BMS Transformers
- Digital Isolators

REDEXPERT

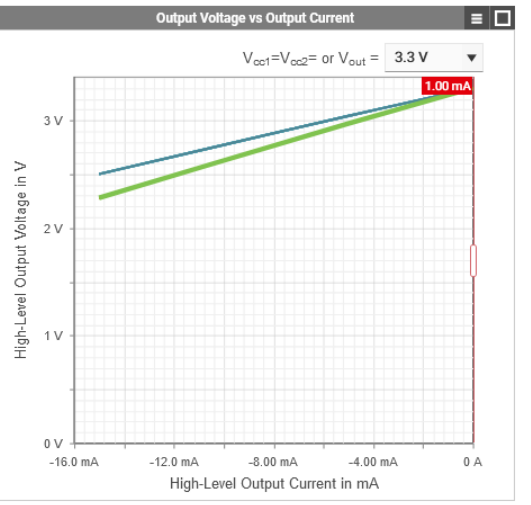
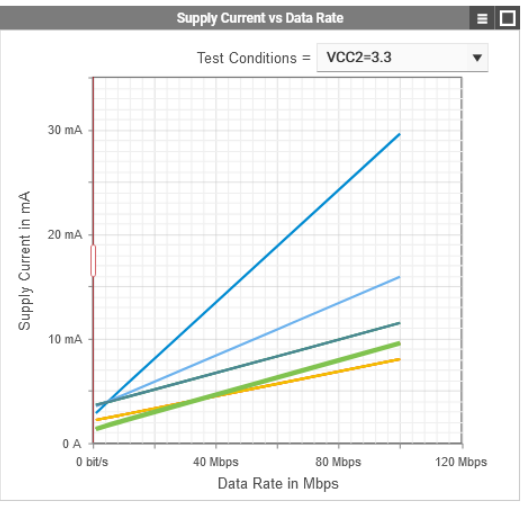
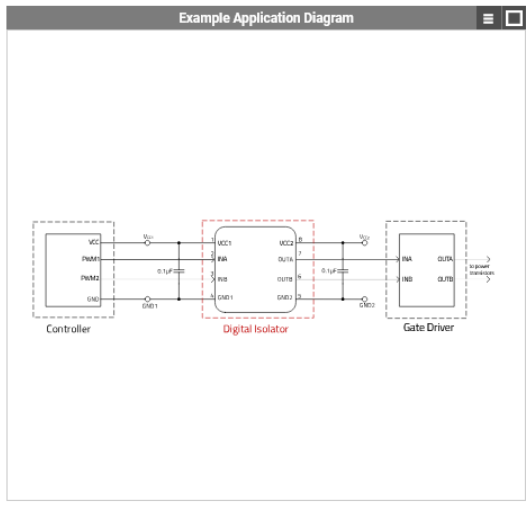
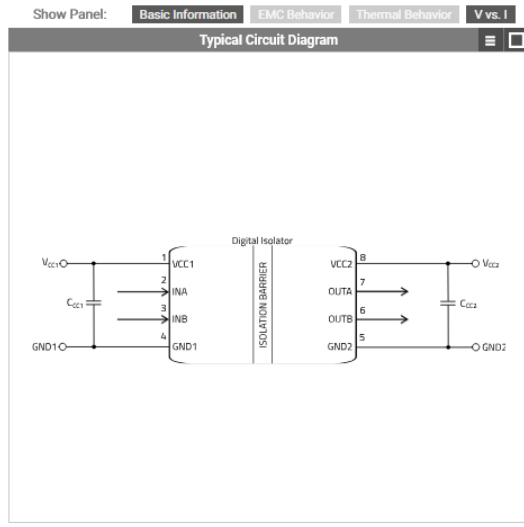
Component Selection and Simulation Tool.



20 Items 

Order Code	Series	Spec	Op. Supply V_{min}	Op. Supply V_{max}	CMTI	Data Rate	V_{iso}	Voltage@1.00 mA	Channels	Channel Config.	Default Output	Integrated Power	t_{PLH} , t_{PHL}	Package
✓ 18014015401H	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	5.00 kV		4	4/0	High	✗	12.0 ns	SOIC-16WB
✓ 18012115421L	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	5.00 kV		2	1/1	Low	✗	12.0 ns	SOIC-8WB
✓ 18014215401H	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	5.00 kV		4	2/2	High	✗	12.0 ns	SOIC-16WB
✓ 18014115401H	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	5.00 kV		4	3/1	High	✗	12.0 ns	SOIC-16WB
✓ 18012015411H	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	3.75 kV		2	2/0	High	✗	12.0 ns	SOIC-8NB
✓ 18012115411H	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	3.75 kV		2	1/1	High	✗	12.0 ns	SOIC-8NB
✓ 18012015421L	WPME-CDIS		2.38 V	5.50 V	150 kV/ μ s	150 Mbps	5.00 kV		2	2/0	Low	✗	12.0 ns	SOIC-8WB

18014015401H ✗ WPME-CDIS
18012115421L ✗ WPME-CDIS
18014215401H ✗ WPME-CDIS
18014115401H ✗ WPME-CDIS
18012015411H ✗ WPME-CDIS
18012115411H ✗ WPME-CDIS
18012015421L ✗ WPME-CDIS
18012115421H ✗ WPME-CDIS
18014215401L ✗ WPME-CDIS
18012015421H ✗ WPME-CDIS
Click and type or drop an Order Code here
ADD
MORE



REFERENCES

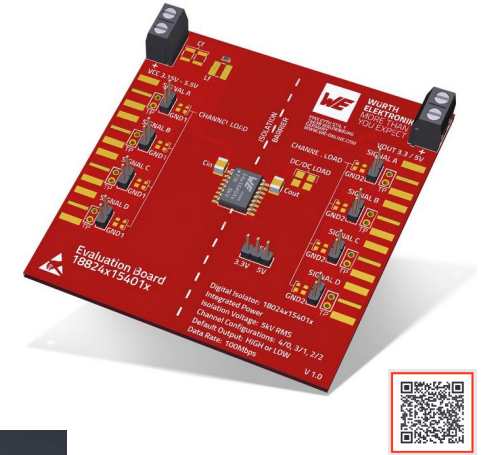
From our website

- [SN026](#): Isolated RS-485 interface based on 4-channel Digital isolator with integrated DC/DC converter.
- [SN028](#): Isolated CAN Interface Based on a 2-Channel Digital Isolator and an Isolated Power Supply Module.
- [ANS021](#): Ensuring Safety without Compromising Data Integrity – Critical Characteristics of Digital Isolators.
- [Industries \(Application\) Guide](#)
- [IC Reference Designs](#)
- [ANS022](#): Bridge capacitor for isolated power modules, the whole truth, no myths.
- [Toolbox](#): Design tools.
- [All Application Notes](#)

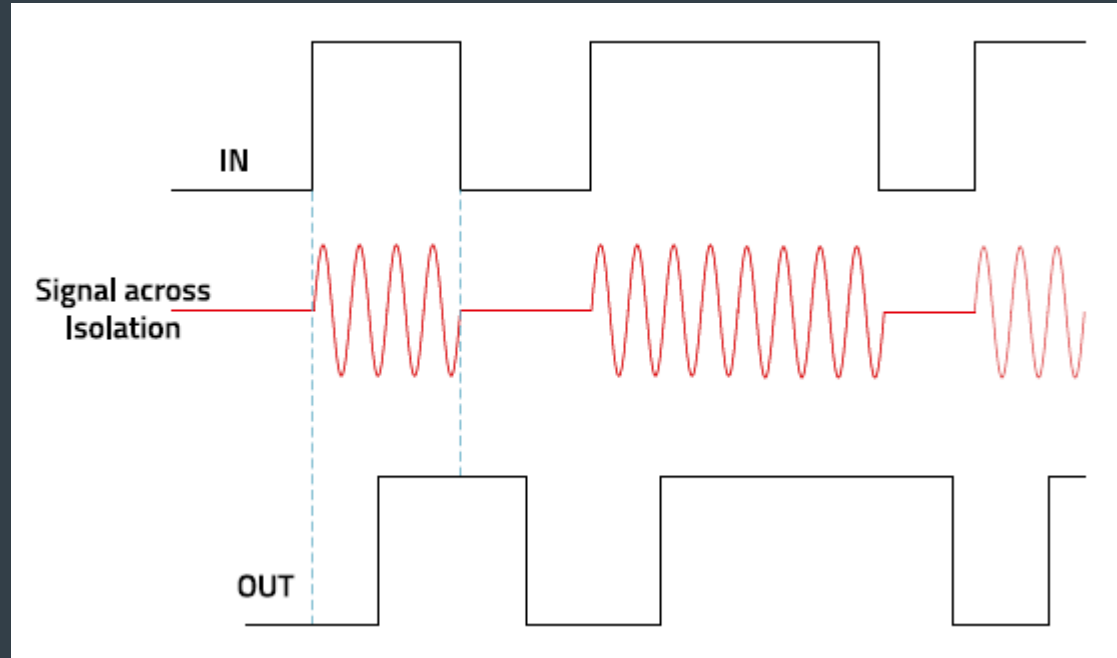
QUESTION #3

What are the **WE** support advantages?

- a) REDEXPERT – component selection and simulation tool.
- b) Downloadable component libraries.
- c) Design and technical support.
- d) Application notes and reference designs.
- e) Evaluation kits and free samples.
- f) Competitive pricing, and stocks availability.
- g) All of the above ✓



DEMO



Digital Isolator

DIGITAL ISOLATOR DEMO

Contents

- Materials and tools
- Test setup
- Measurements

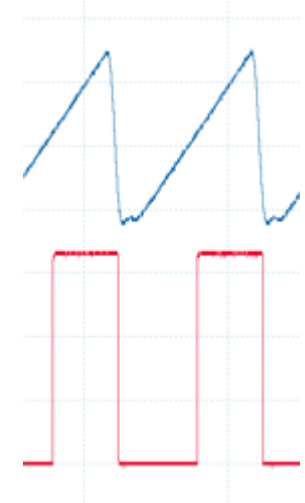
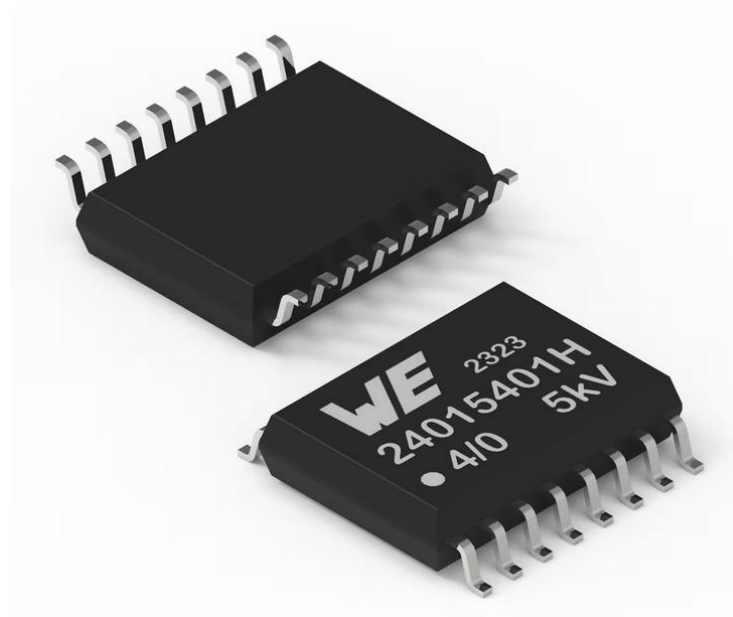


** Some presentation images have clickable web links*

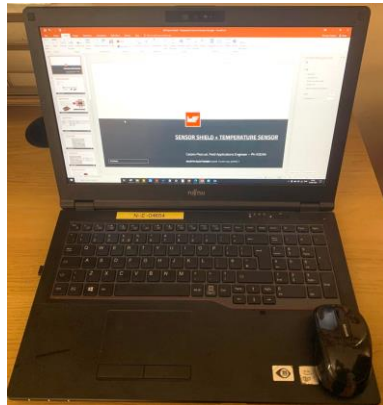


MATERIALS AND TOOLS

- Digital Isolator Evaluation Kit – WE PN: 18824215401L
- Signal Generator
- Oscilloscope
- Multimeter



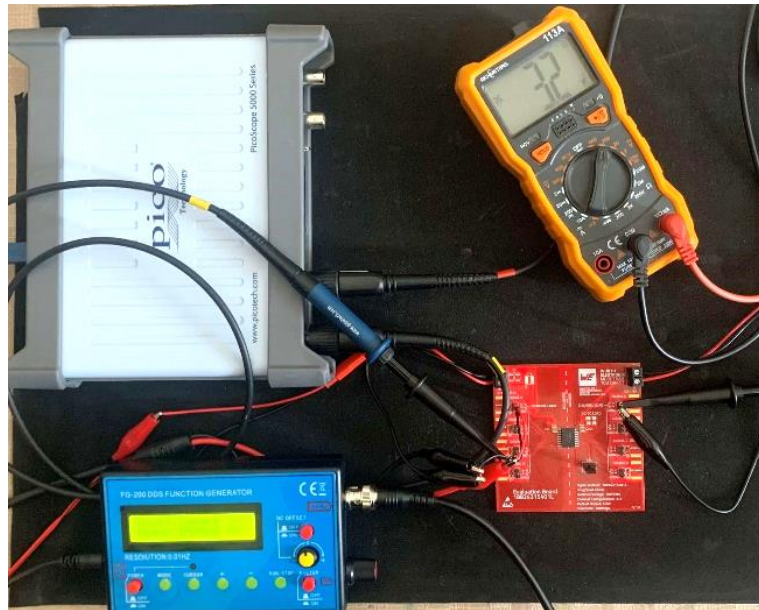
TEST SETUP



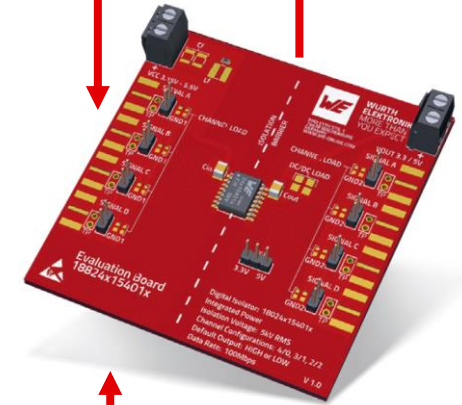
Computer



Oscilloscope + a) Signal Generator



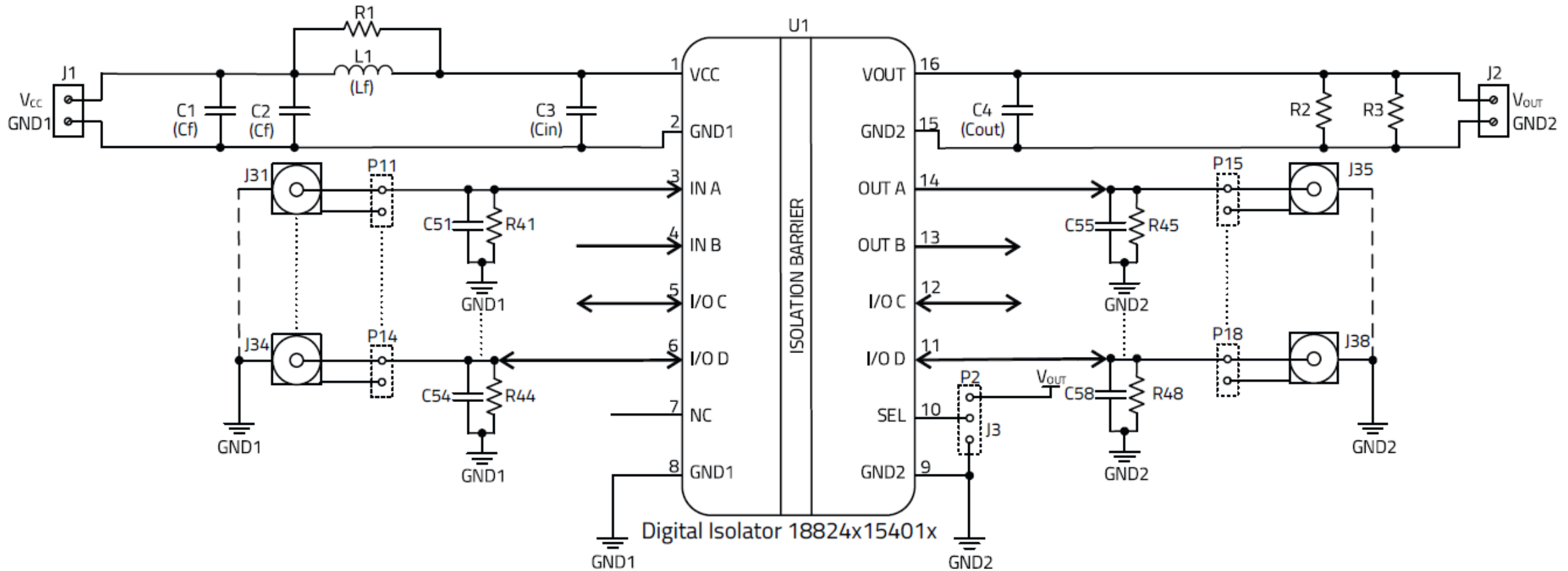
or b) Signal Generator



Digital Isolator EV Kit

EVALUATION KIT

Schematic



MEASUREMENTS

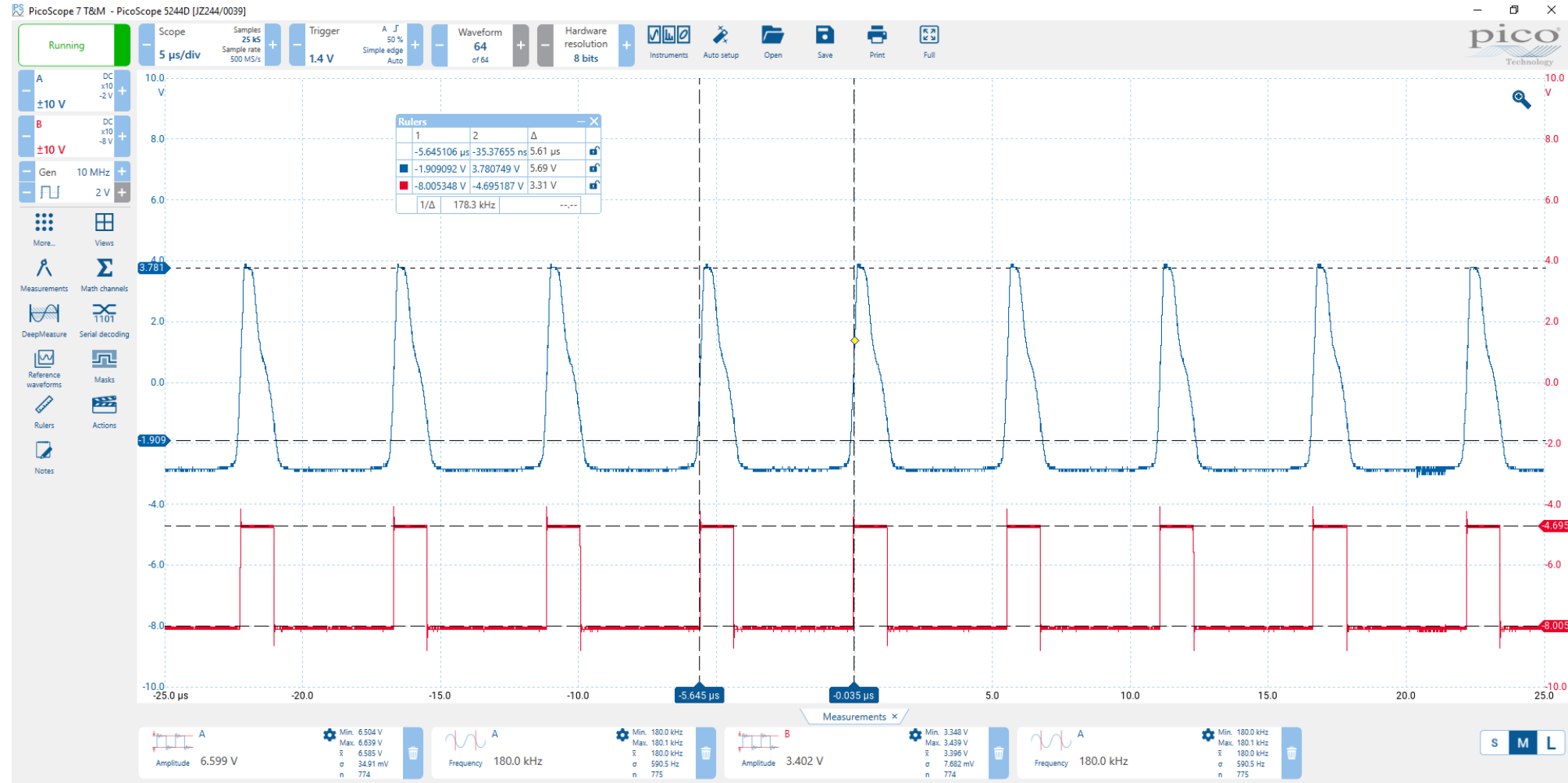


Input



Output

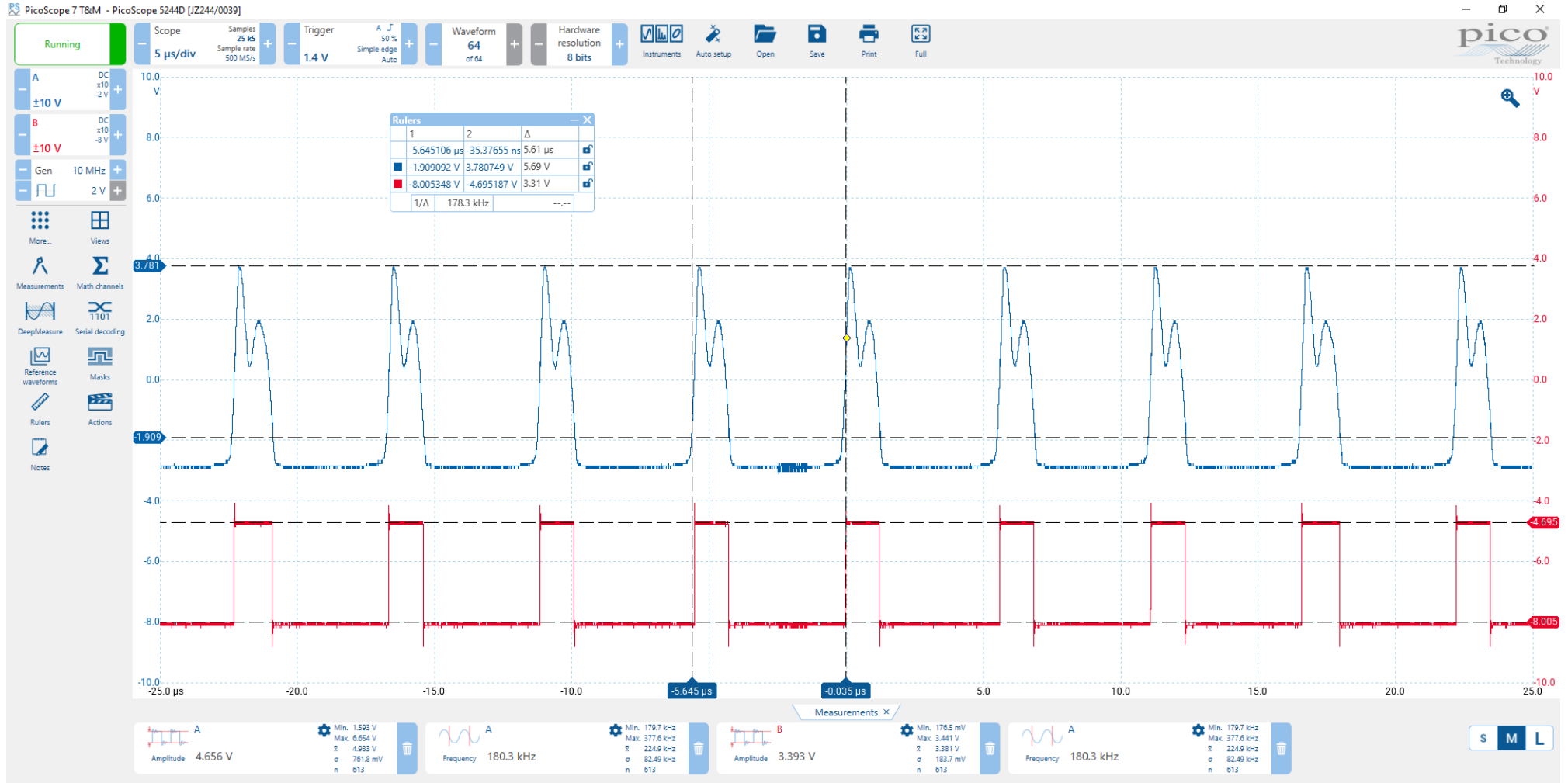
With Gaussian input



MEASUREMENTS

 Input  Output

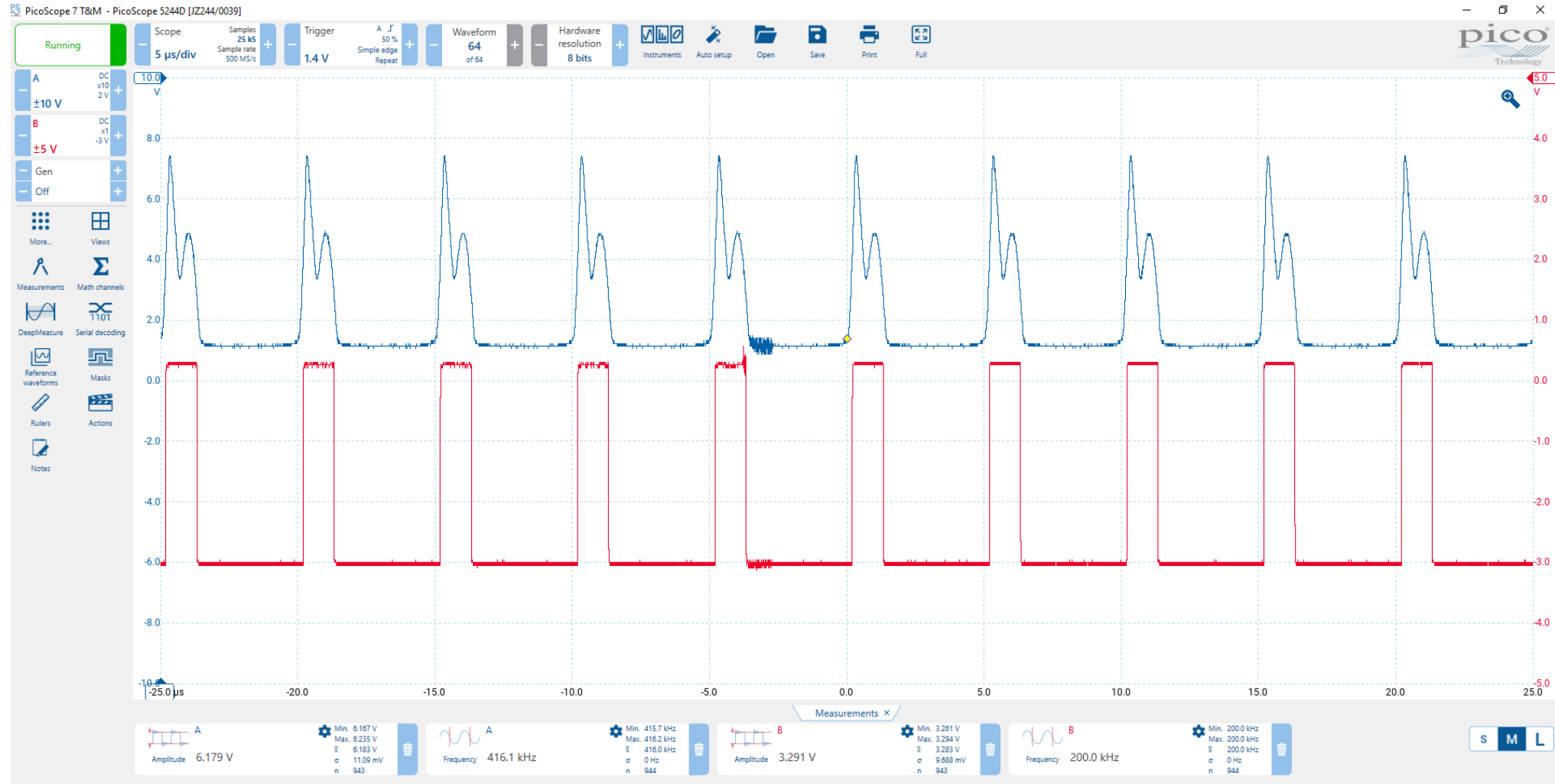
With noisy square wave input



MEASUREMENTS

■ Input ■ Output

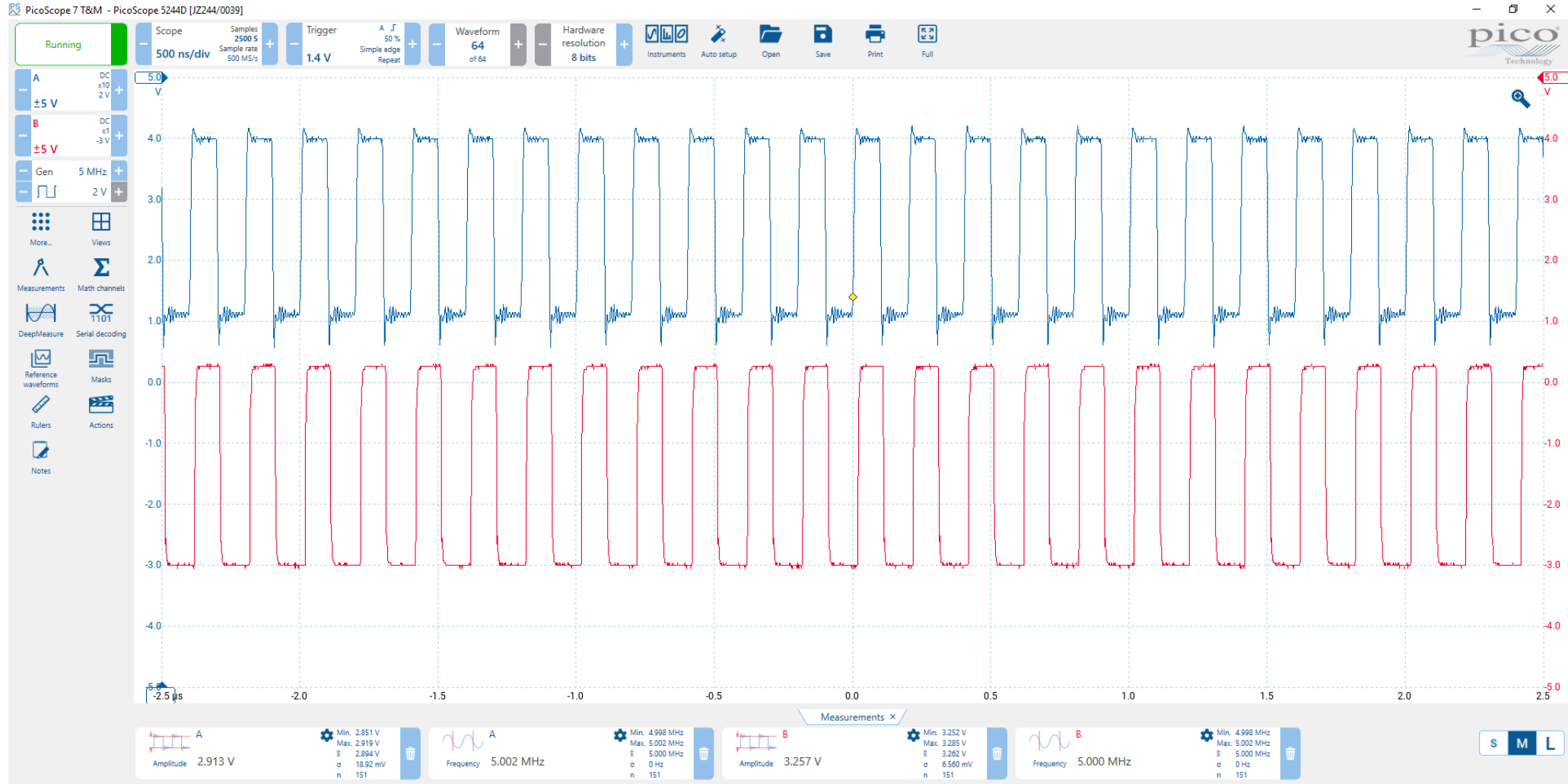
With noisy square wave input



MEASUREMENTS

■ Input ■ Output

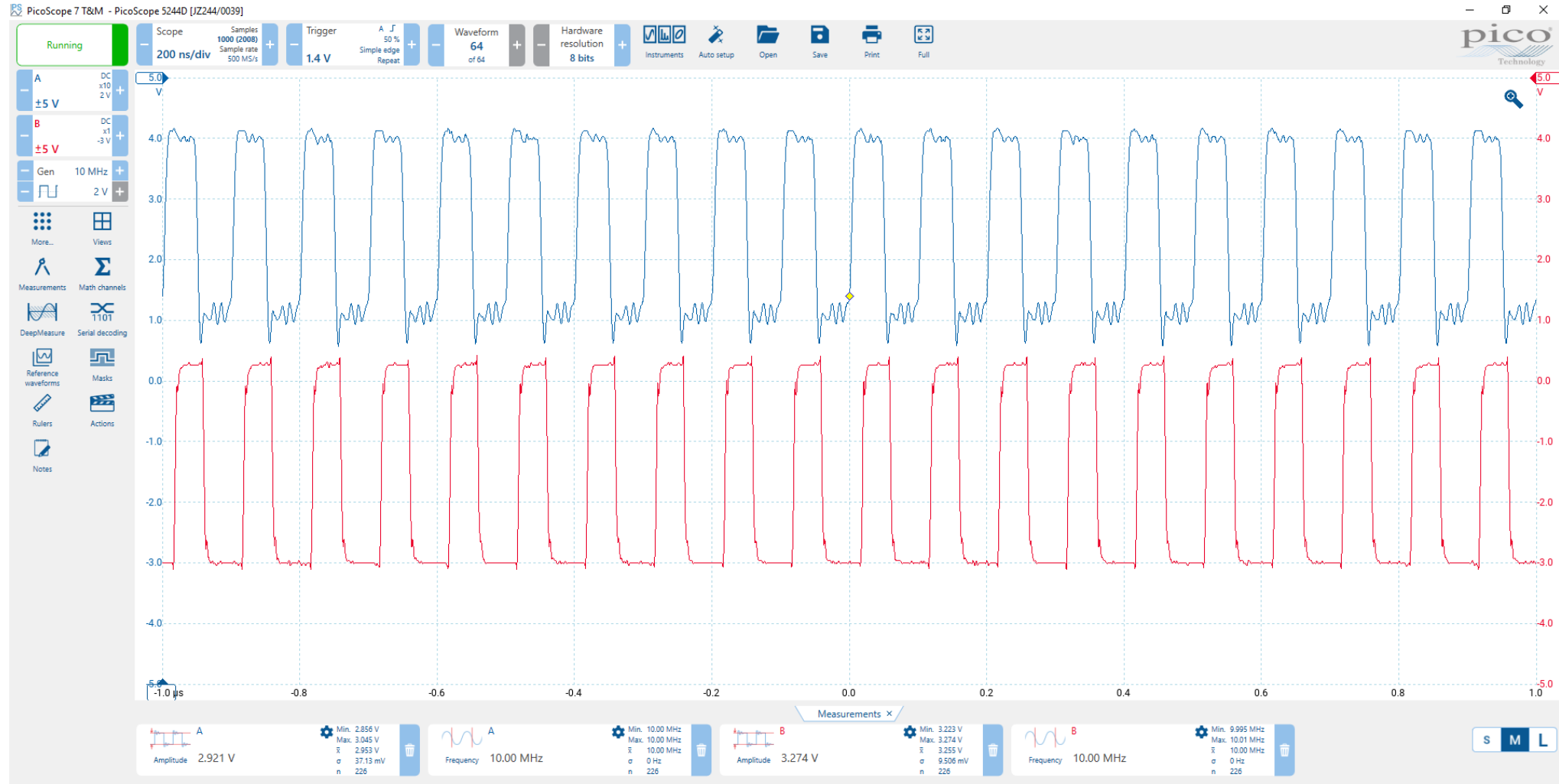
With noisy square wave input



MEASUREMENTS

 Input  Output

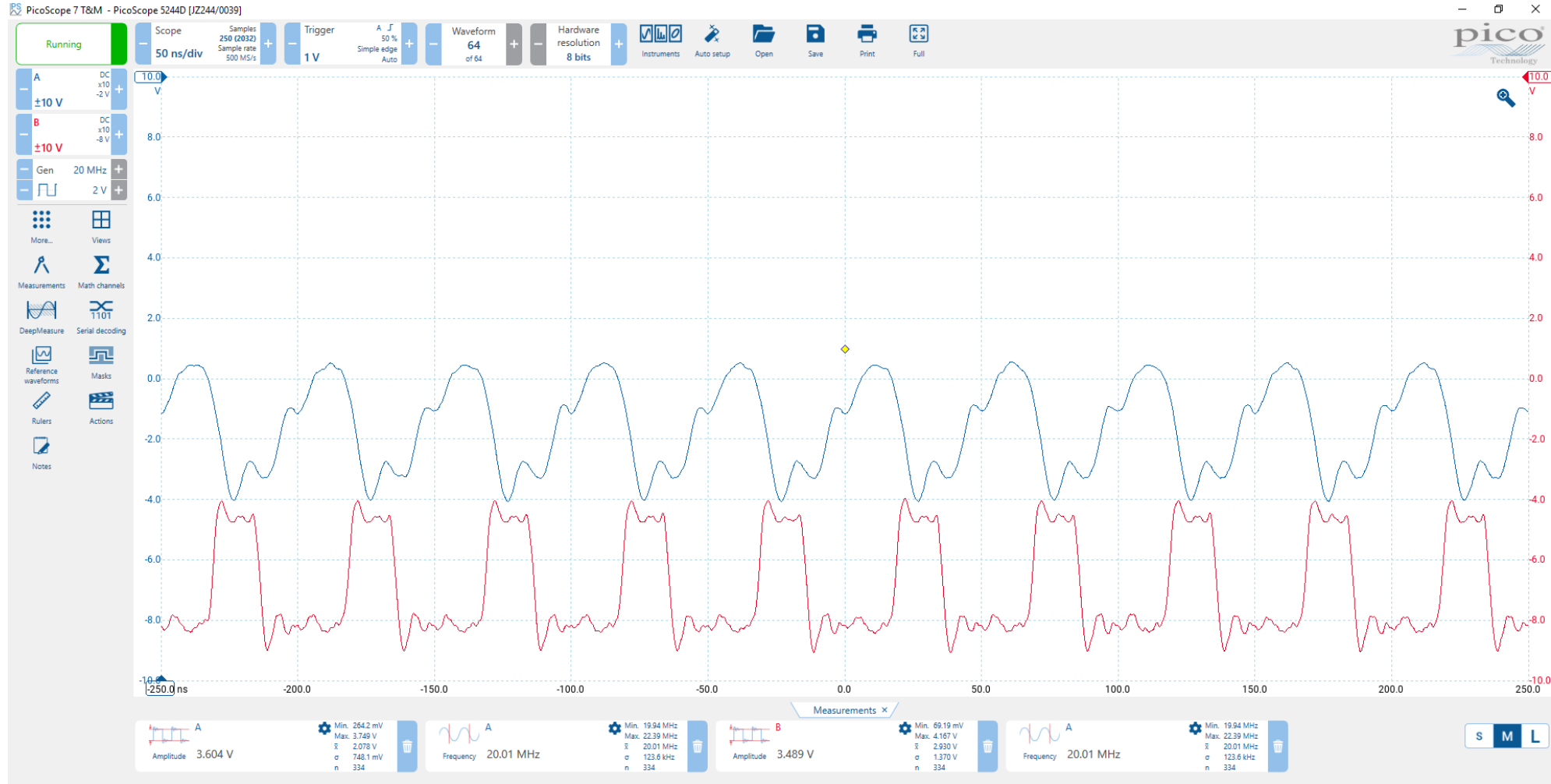
With noisy square wave input



MEASUREMENTS

 Input  Output

With noisy square wave input



MEASUREMENTS

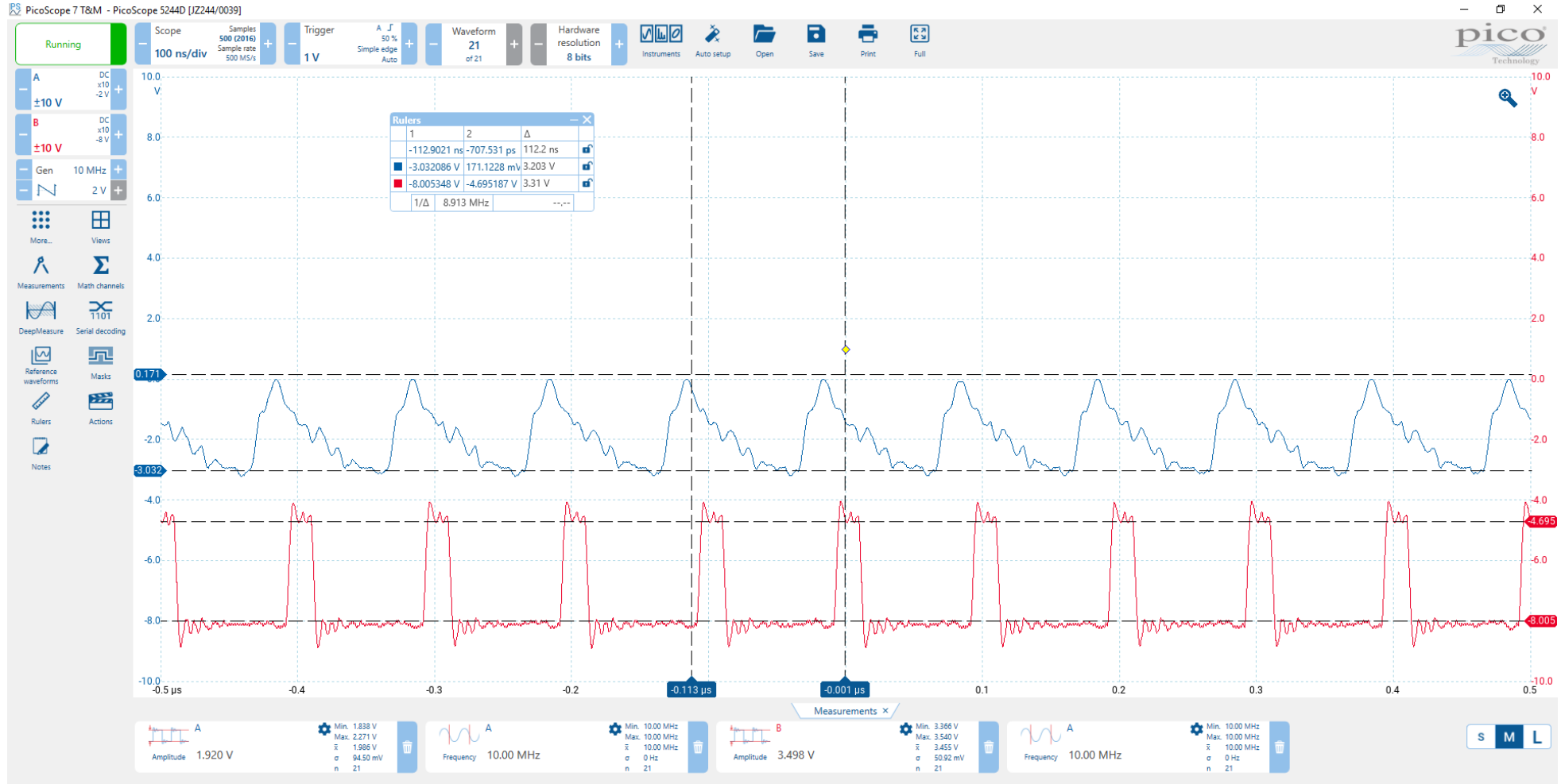


Input



Output

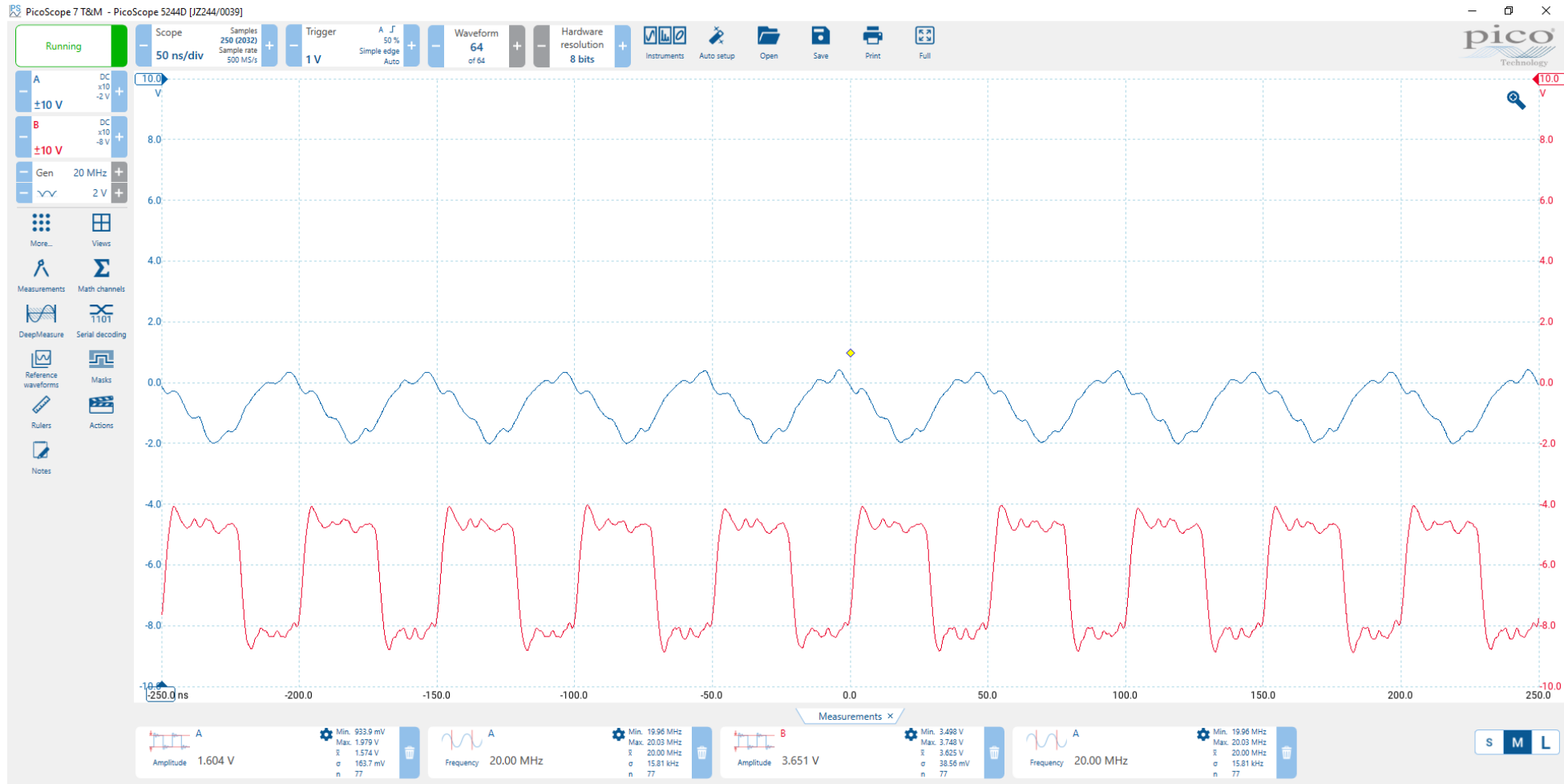
With ramp down input



MEASUREMENTS

 Input  Output

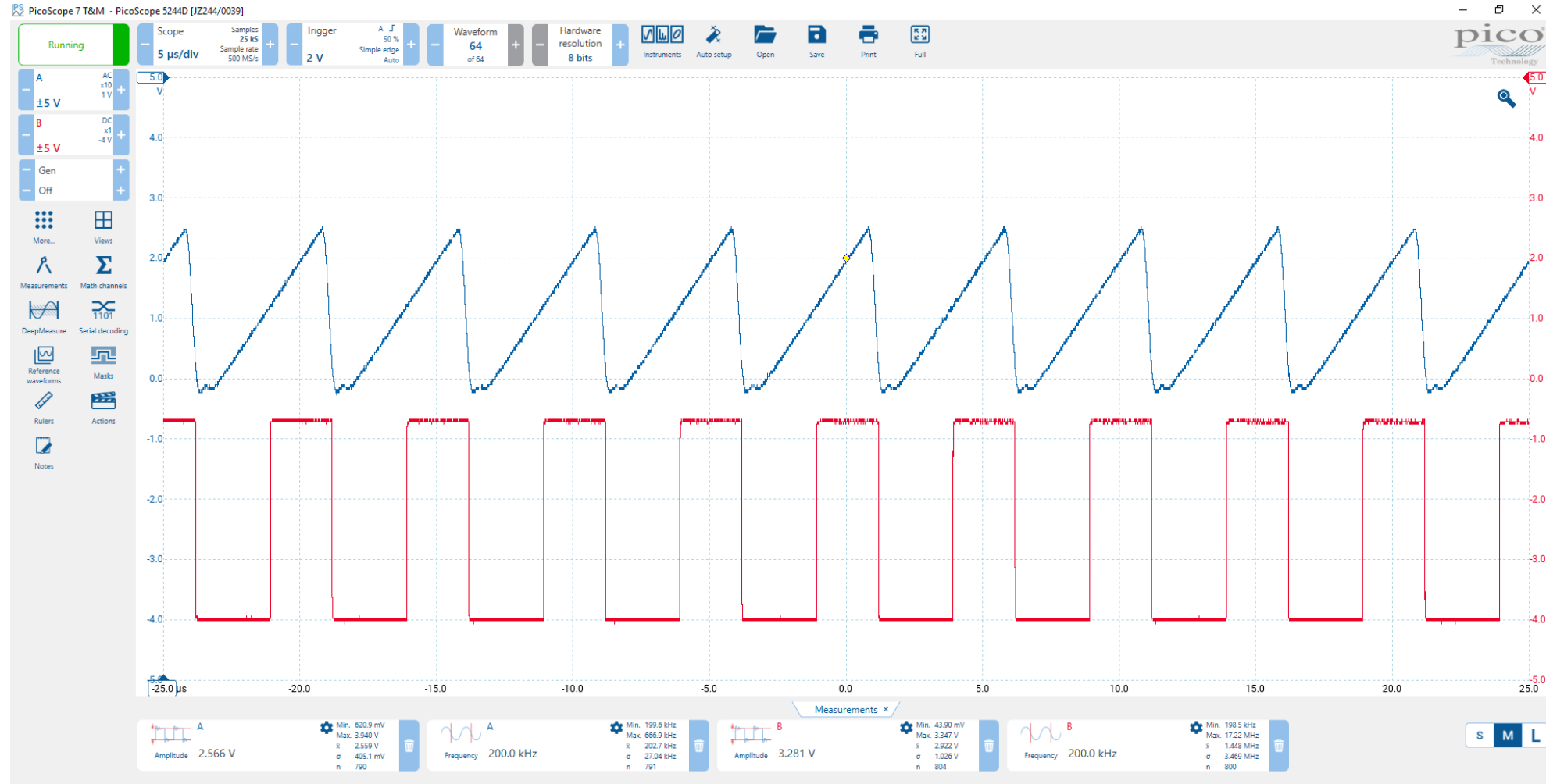
With half sine input



MEASUREMENTS

 Input  Output

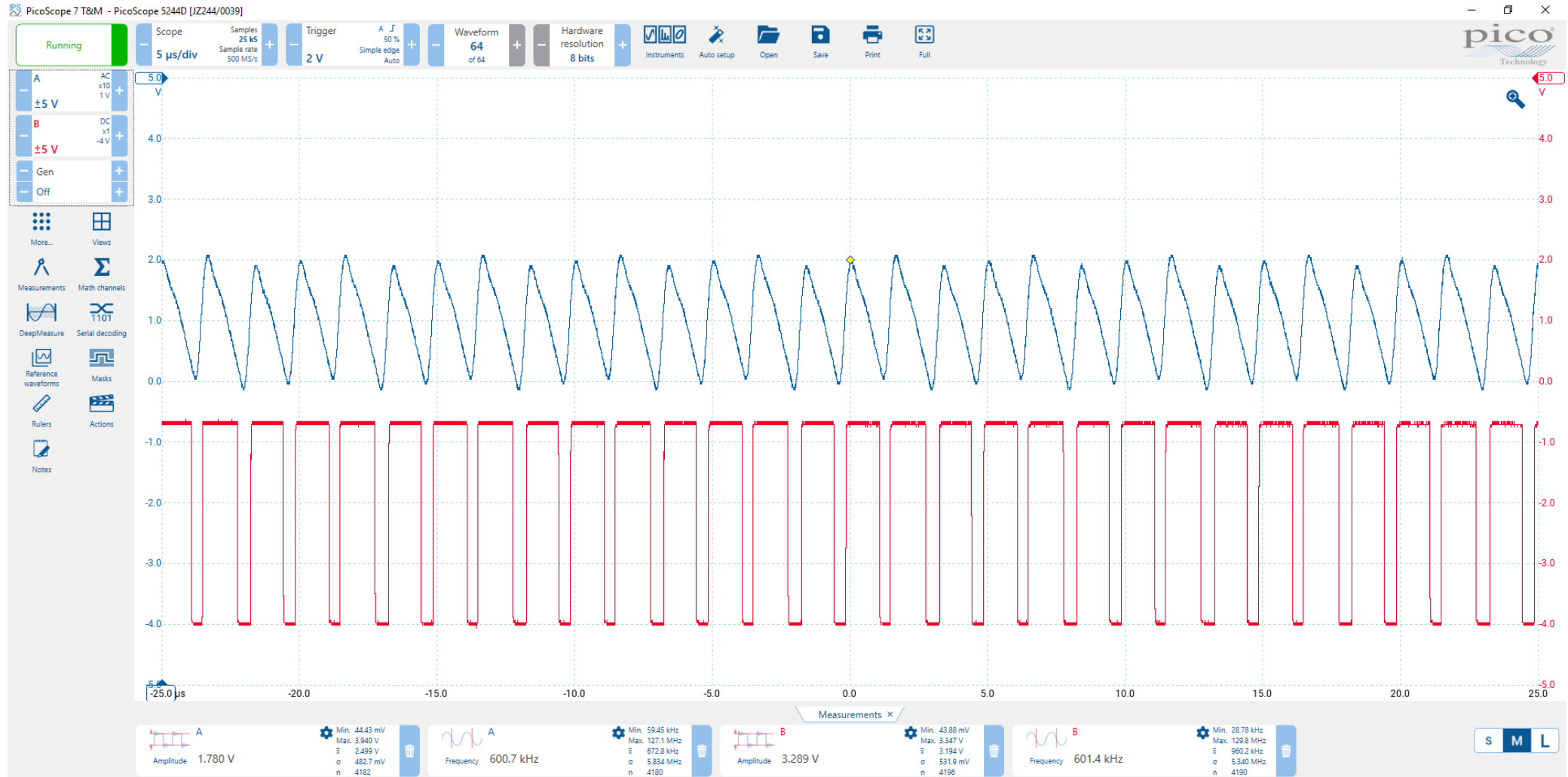
With sawtooth input



MEASUREMENTS

■ Input ■ Output

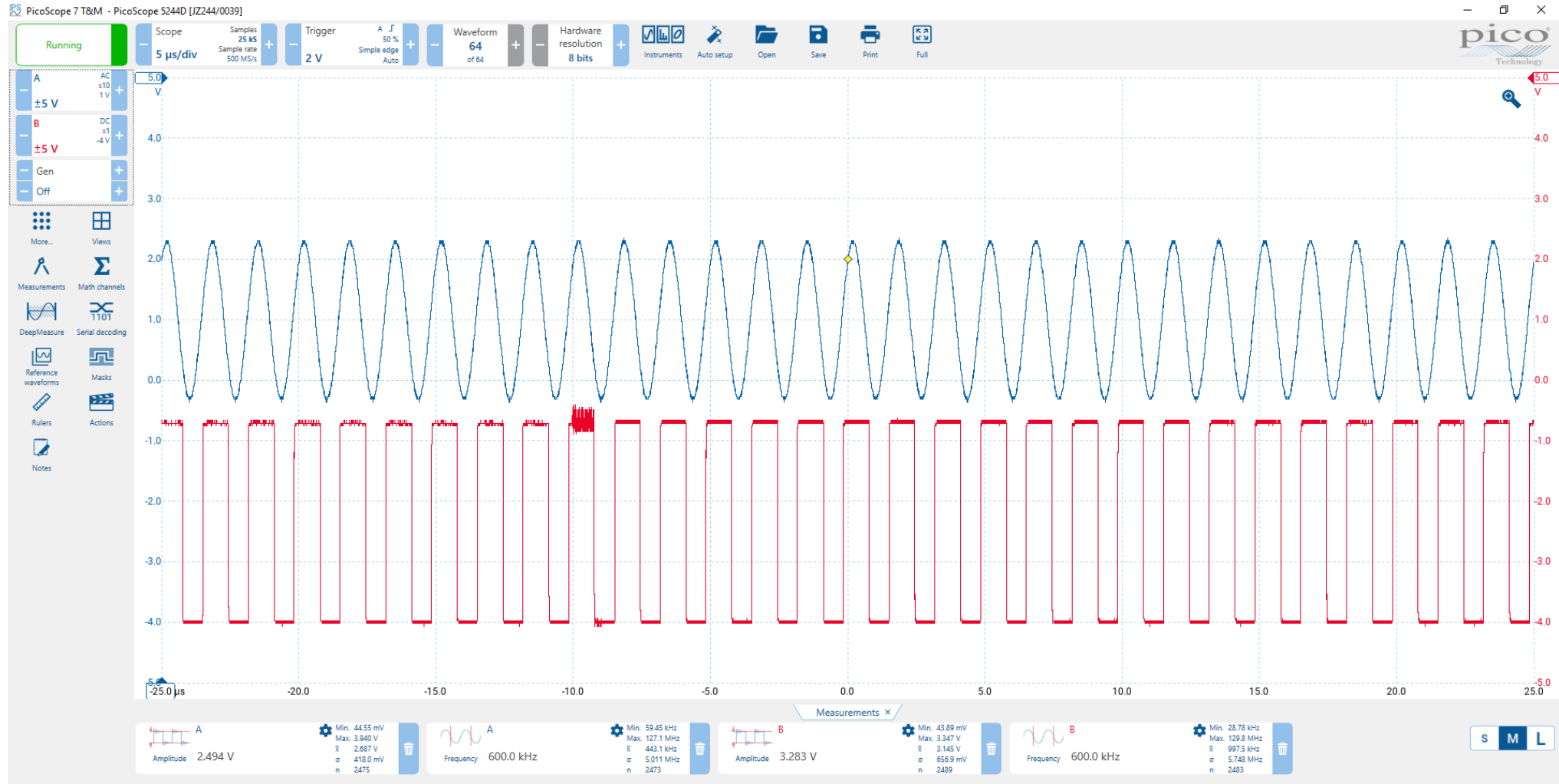
With reverse sawtooth input



MEASUREMENTS

 Input  Output

With sine wave input



THANK YOU!



MORE THAN YOU EXPECT



Wurth Electronics Australia / New Zealand

more than you expect.

Appliances, Electrical, and Electronics Manufacturing · Footscray · 2K followers · 11-50 employees

+ Follow

Message

