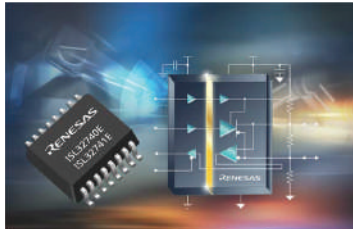


# Isolated DC-DC converter with PROFIBUS Compliant 6kV VDE-Reinforced Isolated RS-485 Transceiver



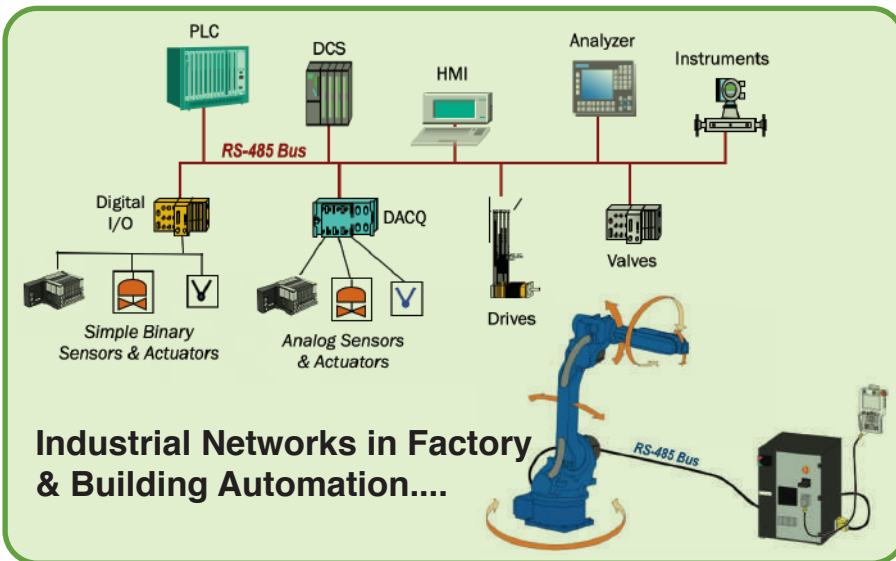
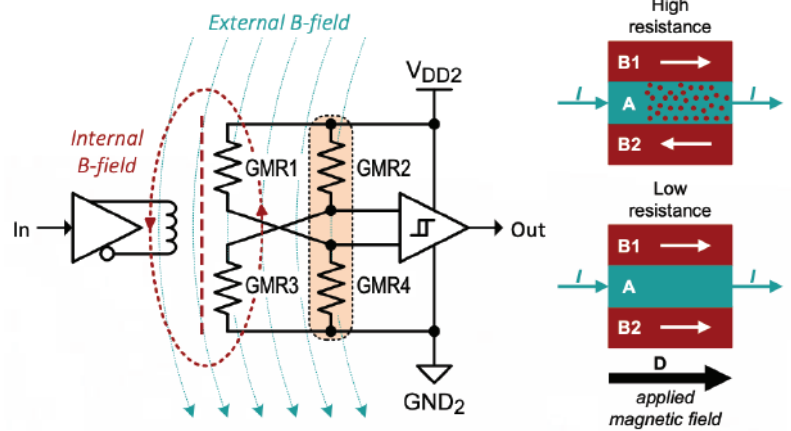
**ISL32741E Isolated High-Speed RS-485 Transceiver**

The robust ISL32741E delivers the industry's highest working voltage and ultra-low EMI for industrial IoT networks.



**ISL32704E - Industry's Smallest Isolated RS-485 Transceiver**

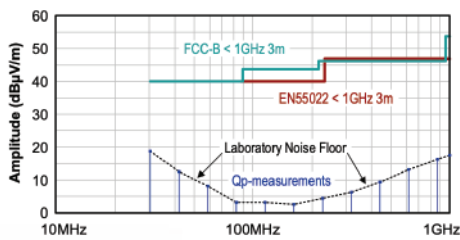
The robust ISL32704E isolated RS-485 differential bus transceiver offers breakthrough performance, industry-leading EMI and CMTI, and the highest working voltage for industrial IoT networks.



**Deliverables from Nexcomm**

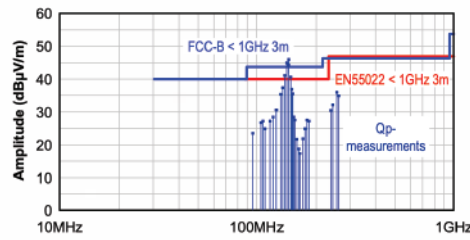
- Working PCB
- Schematics
- BOM
- Layout, Gerber.

Isolated RS-485 Webinar



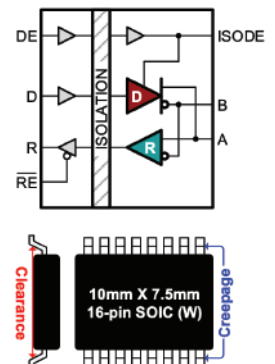
**GMR Principle**

Noise virtually undetectable (below Lab noise floor)



**Transformer Principle**

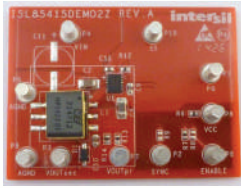
can violate Specification



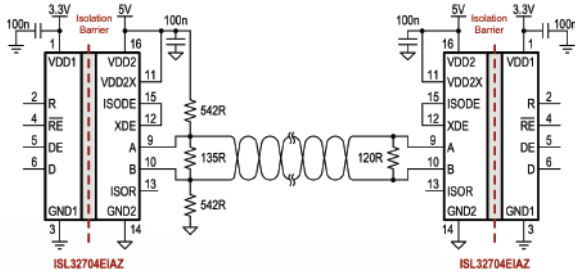
The main advantage of GMR isolation over other isolation technologies is its low radiated emission and low EMI susceptibility.

Unlike capacitive and magnetic isolators that utilize RF carriers or pulse-width modulation (PWM) to transfer DC and low-frequency signals across the barrier.

GMR isolators have no pulse train of RF carriers to interfere with, they also have very low EMI susceptibility.



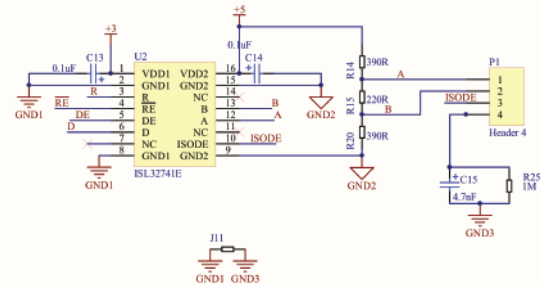
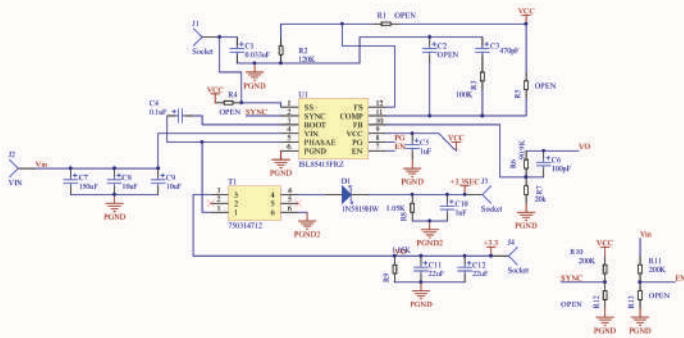
Equipment covered under IEC 61010-1 Edition 3



The isolated RS-485 bus uses failsafe biasing for high noise margin during bus idling. The high working voltage of the isolator allows for GPDs of up to 600V while ensuring reliable data transmission.

## Industry's Strongest PROFIBUS Isolator Portfolio

Part#	Data Rate (Mbps)	Vod (min)(V)	CMTI(min) (kV/us)	VDD1 Range(V)	VDD2 Range(V)	ISO Rating (kV rms)	Temp. Range (°C)	Package(mm x mm)
ISL32740EIAZ	40	2.1	30	3.0 - 5.5	4.5 - 5.5	2.5 (Basic Insulation)	-40 to 85	16Ld QSOP (4x5)
ISL32740EIBZ							-40 to 85	16Ld SOIC (10.3 x 7.5)
ISL32740EFBZ						-40 to 125		
ISL32741EIBZ						-40 to 85		
ISL32741EFBZ						-40 to 125	(Reinforced Insulation)	



## BoM for Isolated RS485 and Isolated DC-DC Converter

SL. No	Comment	Designator	Quantity	Value
1	Capacitor	C1, C2, C3, C4, C5, C6, C7, C9, C11, C13, C14, C15	12	0.033uF, OPEN, 470pF, 0.1uF, 1uF, 100pF, 150uF, 10uF, 22uF, 4.7nF
2	Capacitor	C8, C10, C12	3	10uF, 1uF, 22uF
3	1N5819HW	D1	1	
4	Resistor	R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15,	28	100K, OPEN, 90.9K, 20k, 1.05K, 200K, 390R, 220R,
5	Resistor	R1, R2	1	SMD-RES-68R-5%-1/8W(0805)
6	750314712 - Wurth transformer	T1	1	750314712
7	ISL85415FRZ- Renesas	U1	1	ISL85415FRZ- Isolated dc-dc converter
8	ISL32741E - Renesas	U2	1	ISL32741E - Isolated rs485 transceiver