

Quiz: Introduction to 4-20mA Current Loop Transmitters

TI Precision Labs – Current Loop Transmitters

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1. True/False: The function of a 4-20mA transmitter is to convert a 0-100% signal to a 4-20mA current signal to be transmitted across a long distance.

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1. **True**/False: The function of a 4-20mA transmitter is to convert a 0-100% signal to a 4-20mA current signal to be transmitted across a long distance.

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2. Fill in the blanks: _____ transmitters are less sensitive to noise than _____ transmitters due to their inherent _____ impedance.

- a) Current, voltage, high
- b) Voltage, current, high
- c) Current, voltage, low
- d) Voltage, current, low

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2. Fill in the blanks: _____ transmitters are less sensitive to noise than _____ transmitters due to their inherent _____ impedance.

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- c) Current, voltage, low**
- d) Voltage, current, low

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3. Which type of transmitter is loop supplied?

- a) 2-wire transmitter
- b) 3-wire transmitter
- c) 4-wire transmitter
- d) None of the above

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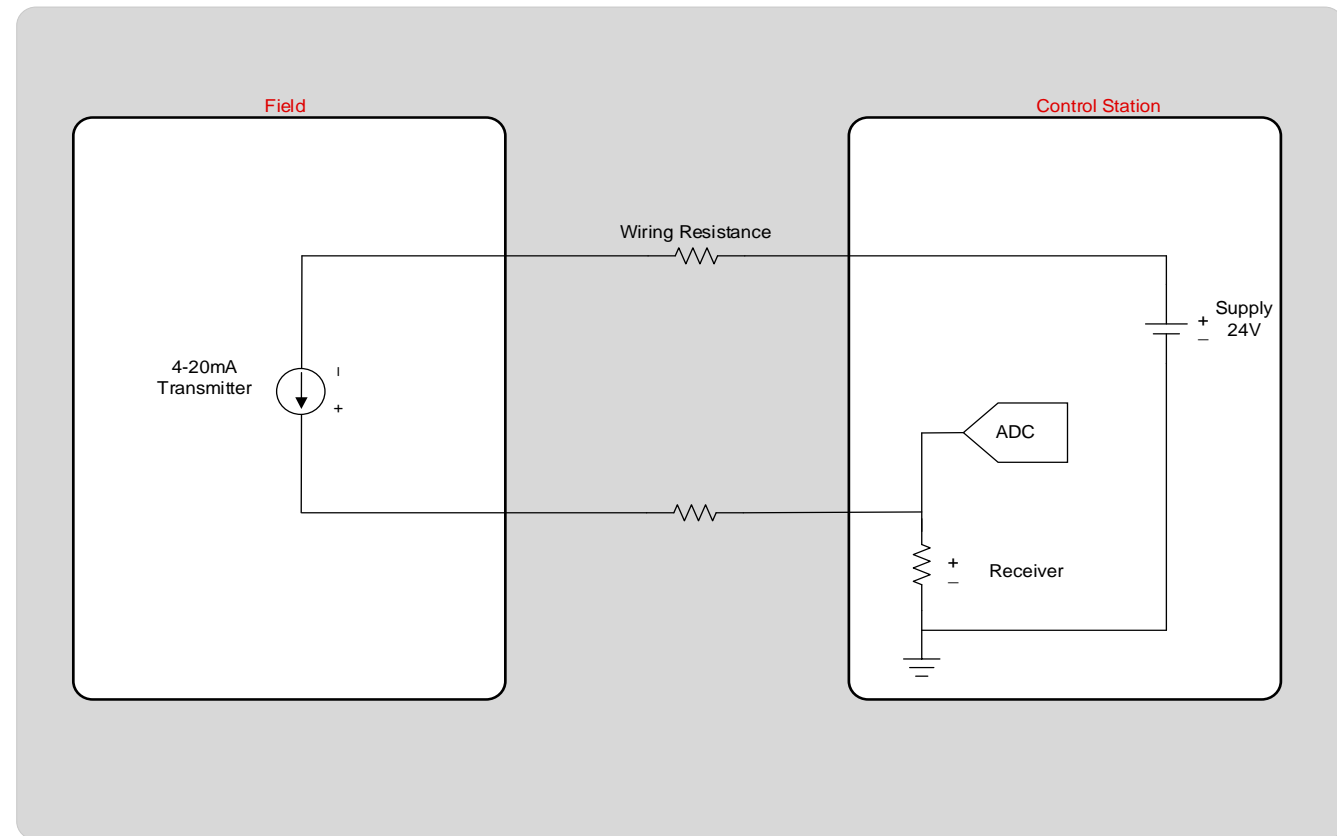
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- a) **2-wire transmitter**
- b) 3-wire transmitter
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4. What receiver resistor value would convert a 4-20mA signal to 2-10V?

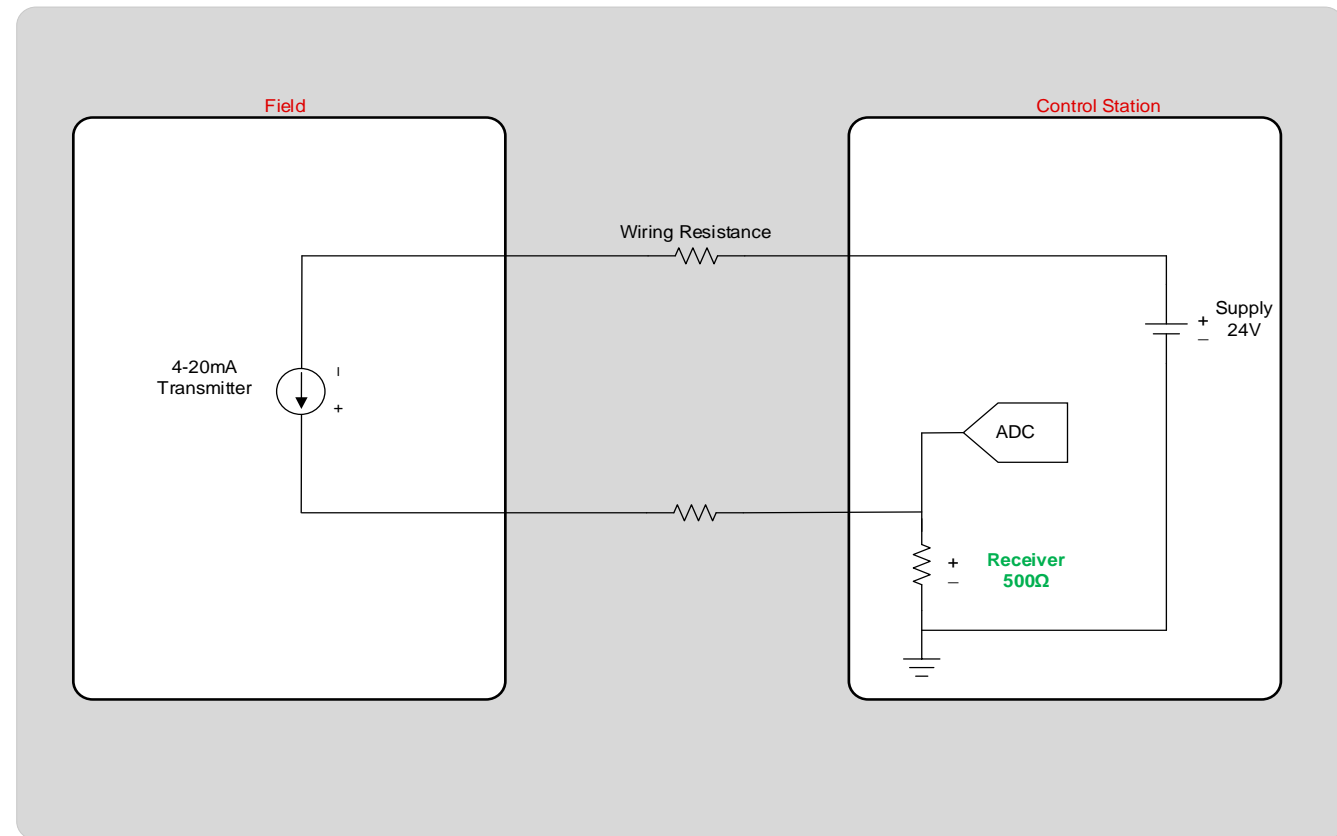
- a) $1\text{k}\Omega$
- b) 500Ω
- c) 250Ω
- d) 100Ω



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4. What receiver resistor value would convert a 4-20mA signal to 1-5V?

- a) 1k Ω
- b) 500 Ω**
- c) 250 Ω
- d) 100 Ω



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5. Which of the following is not a main component in a discrete current transmitter?
- a) Inductors
 - b) Resistors
 - c) Transistors
 - d) Op-amps

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5. Which of the following is not a main component in a discrete current transmitter?

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- b) Resistors
- c) Transistors
- d) Op-amps

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6. The NAMUR NE43 signal standard allows for which of the following failure modes?
- a) Over-scale
 - b) Under-scale
 - c) Over-scale, and under-scale
 - d) None of the above

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6. The NAMUR NE43 signal standard allows for which of the following failure modes?
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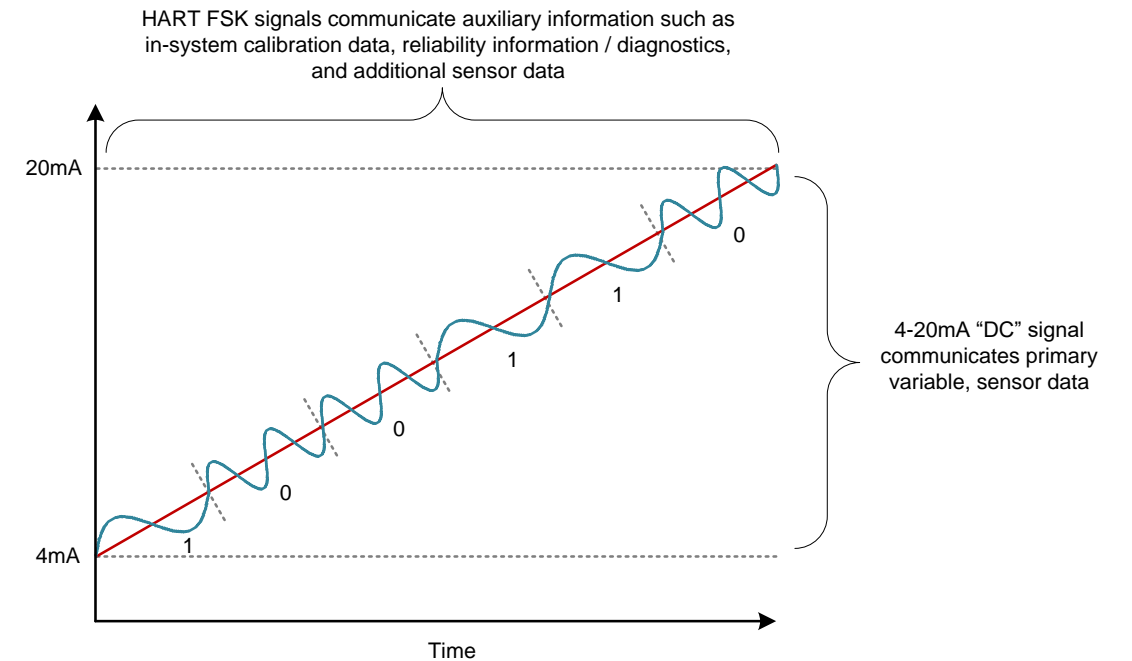
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7. What does HART stand for?
- a) Highway Addressable Resistive Transmitter
 - b) Highway Addressable Resistive Transducer
 - c) Highway Addressable Remote Transmitter
 - d) Highway Addressable Remote Transducer

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7. What does HART stand for?

- a) Highway Addressable Resistive Transmitter
- b) Highway Addressable Resistive Transducer
- c) Highway Addressable Remote Transmitter
- d) Highway Addressable Remote Transducer**



HART uses frequency shift keying to represent binary data with two waveforms.

Thanks for your time!

To find more Current Transmitter technical resources and search products, visit:

<https://www.ti.com/amplifier-circuit/special-function/4-20ma-signal-conditioners.html>