

MTL4641/S

REPEATER POWER SUPPLY

4/20mA, HART®, 2- or 3-wire transmitters

The MTL4641 provides a fully-floating dc supply for energising a conventional 2- or 3-wire 4/20mA transmitter and repeating the current in another floating circuit to drive a load. For HART 2-wire transmitters, the unit allows bi-directional communications signals superimposed on the 4/20mA loop current. Alternatively, the MTL4641S acts as a current sink rather than driving a current into the load.

SPECIFICATION

See also common specification

Number of channels

One

Output

Signal range:	4 to 20mA
Under/over-range:	0 to 24mA
Load resistance (MTL4641)	
@ 24mA:	0 to 375Ω
@ 20mA:	0 to 465Ω
Load (MTL4641S)	
Current sink:	600Ω max.
Maximum voltage source:	24V dc
Circuit output resistance:	> 1MΩ

Circuit ripple

< 50µA peak-to-peak

Input

Signal range:	0 to 24mA (including over-range)
Transmitter voltage:	20V at 20mA (MTL4641)
	16.5V at 20mA (MTL4641S)

Transfer accuracy at 20°C

Better than 20µA 4-20mA (Terminals 1 & 2)
 Better than 30µA 4-20mA (Terminals 1 & 3)

Temperature drift

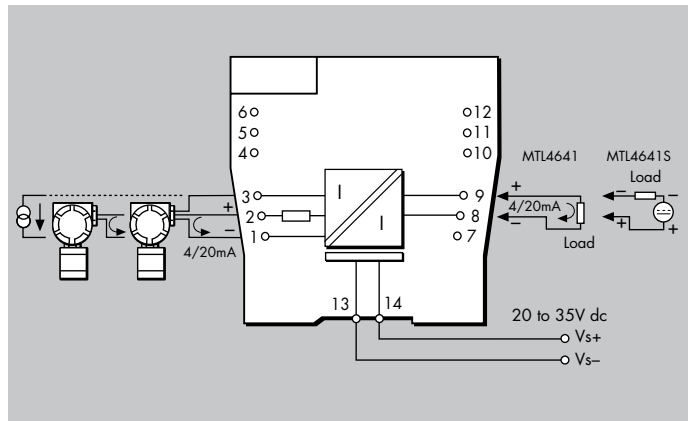
< 0.8µA/°C

Response time

Settles to within 10% of final value within 50µs

Communications supported

MTL4641 / MTL4641S



HART (terminals 1 & 2 only)

LED indicator

Green: power indication

Maximum current consumption (with 20mA signal)

53mA at 24V

Power dissipation within unit (with 20mA signal)

MTL4641	0.8W @ 24V dc
MTL4641S	1.0W @ 24V dc

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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EPS4641/S Rev4 060314

MTL4641A/AS

CURRENT REPEATER

4/20mA passive i/p for HART® transmitters

The MTL4641A provides an input for separately powered 4/20mA transmitters and also allows bi-directional transmission of HART communication signals superimposed on the 4/20mA loop current. Alternatively, the MTL4641AS acts as a current sink rather than driving a current into the load.

SPECIFICATION

See also common specification

Number of channels

One

Input

Signal range: 4 to 20mA
Under/over-range: 1.0 to 21.5mA

Input impedance for HART signals

at terminals 1, 2: > 230Ω

Maximum input volt drop

at terminals 1, 2: < 6.6V
i.e. a transmitter load of 330Ω at 20mA

Output

Signal range: 4 to 20mA
Under/over-range: 1.0 to 21.5mA
Load resistance (MTL4641A)
Conventional transmitters: 0 to 360Ω
Smart transmitters: 250Ω ±10%
Load (MTL4641AS)
Current sink: 600Ω max.
Maximum voltage source: 24V DC
Circuit output resistance: > 1MΩ

Circuit ripple

< 50μA peak-to-peak up to 80kHz

Transfer accuracy at 20°C

Better than 20μA

Temperature drift

< 1μA/°C

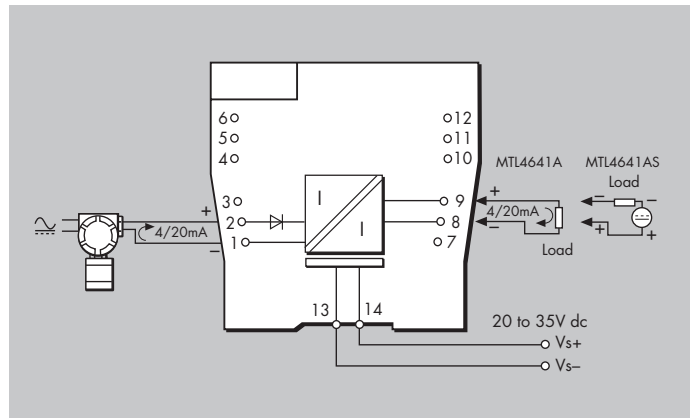
Response time

Settles within 200μA of final value after 20ms

Communications supported

HART

MTL4641A / MTL4641AS



LED indicator

Green: power indication

Power requirement (with 20mA signal)

50mA at 20V
45mA at 24V
35mA at 35V

Power dissipation within unit (with 20mA signals)

MTL4641A 0.8W @ 24V dc
MTL4641AS 1.1W @ 24V dc

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