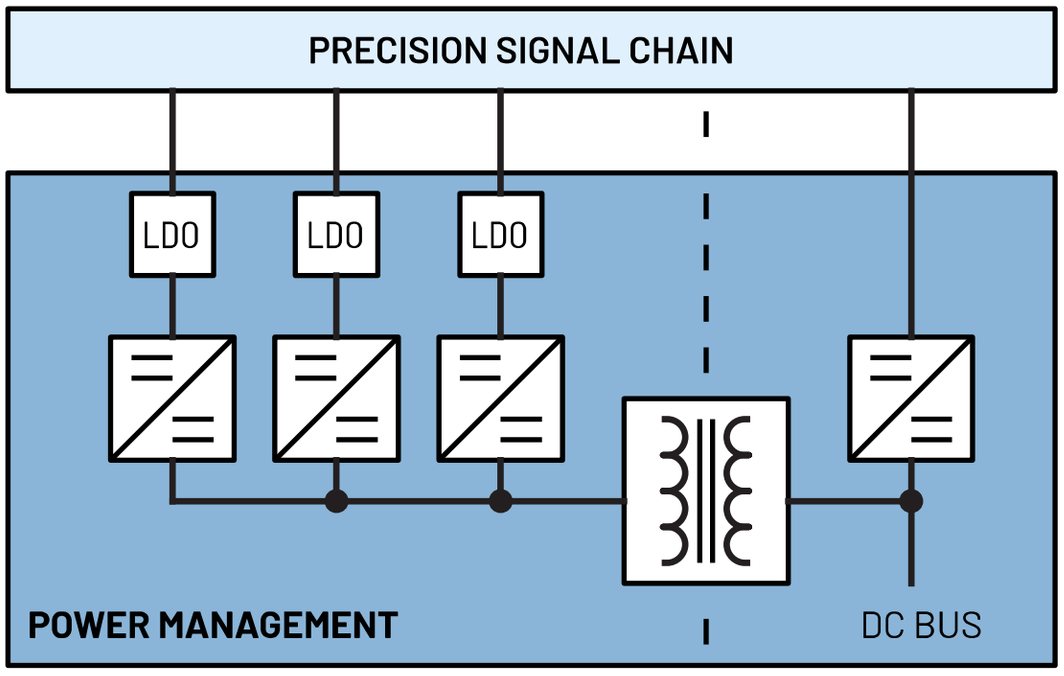
POWER SOLUTIONS FOR PRECISION TECHNOLOGY SIGNAL CHAINS

PRECISION CURRENT SENSING

Generic Signal Chains for Current Measurement Contactless Sensing – Current Transformer



Rev. 0 | Aug. 2022

This document is interactive. You can click on any underlined text to navigate through the document.

For the resources:

APPENDIX	Parts Guide
	Power Requirements

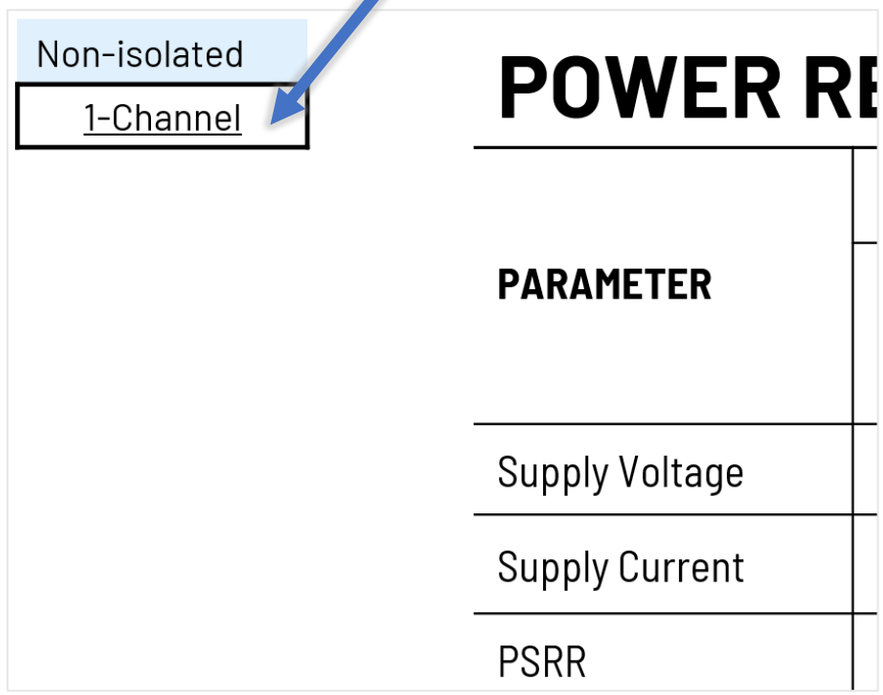
Left-click the Parts Guide and Power Requirements to go through the list of power devices and other references.

The Power Components are listed on the Appendix, and you may click on the part to go through its product page online.

PART #	DESCRIPTION
LT3471	Dual 1.3A, 1.2MHz Boost/Inverter in 3mm × 3mm DFN
LT8604	High Efficiency 42V/120mA Synchronous Buck
LT8570-1	Boost/SEPIC/Inverting DC/DC Converter with 65V Switch, Soft-Start and Sync.

For the individual pages:

Left-click the specific signal chain to go through its respective block diagram or power tree.



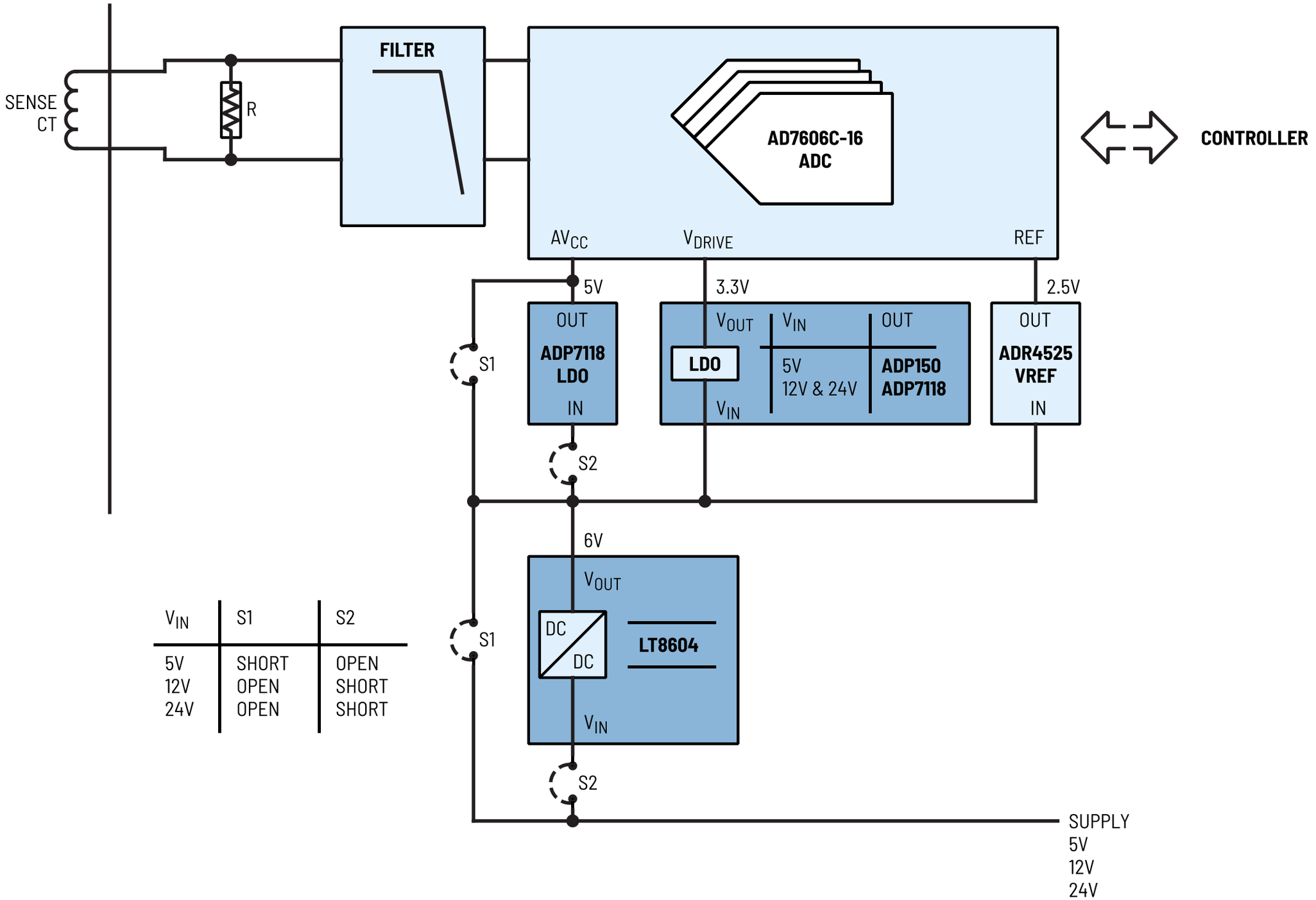
APPENDIX	Parts Guide	USER GUIDE
	Power Requirements	

Generic Signal Chain for Current Measurement

Contactless Sensing – Current Transformer

Non-isolated

Multichannel



V_{IN}	S1	S2
5V	SHORT	OPEN
12V	OPEN	SHORT
24V	OPEN	SHORT

Precision Current Sensing

Generic Signal Chain for Current Measurement

Contactless Sensing – Current Transformer

Non-isolated

Multichannel

PART #	DESCRIPTION
ADP150	Ultralow Noise, 150 mA CMOS Linear Regulator
ADP7118	20 V, 200 mA, Low Noise, CMOS LDO Linear Regulator
LT8604	High Efficiency 42V/120mA Synchronous Buck

POWER REQUIREMENTS

PARAMETER	STAGES	Filter	ADC		Reference
	Part #	-	AD7606C-16		ADR4525
	Pin		AV_{CC}	V_{DRIVE}	IN
Supply Voltage	V	-	5	3.3	5 (or 6)
Supply Current	mA	-	50	1.9	0.95
PSRR	dB	-	130 (1kHz)		80 (1MHz)

Note 1: The supply currents indicated are the maximum quiescent current of the supply rails. For overall full load or short circuit current specifications, refer to the datasheets of the signal chain components.

Note 2: The supply voltages indicated are the values for typical applications.

Note 3: Consult the corresponding datasheets for details on: (1) power supply rejection ratio (PSRR) and (2) power dissipation.

Note 4: The actual supply current requirement shall be multiplied depending on the number of channels on the signal chain.