AHEAD OF WHAT'S POSSIBLE™

POWER SOLUTIONS FOR PRECISION TECHNOLOGY SIGNAL CHAINS

PRECISION MEDIUM BANDWIDTH

Multiple Channel Data Acquisition
Scalable Simultaneous Sampling

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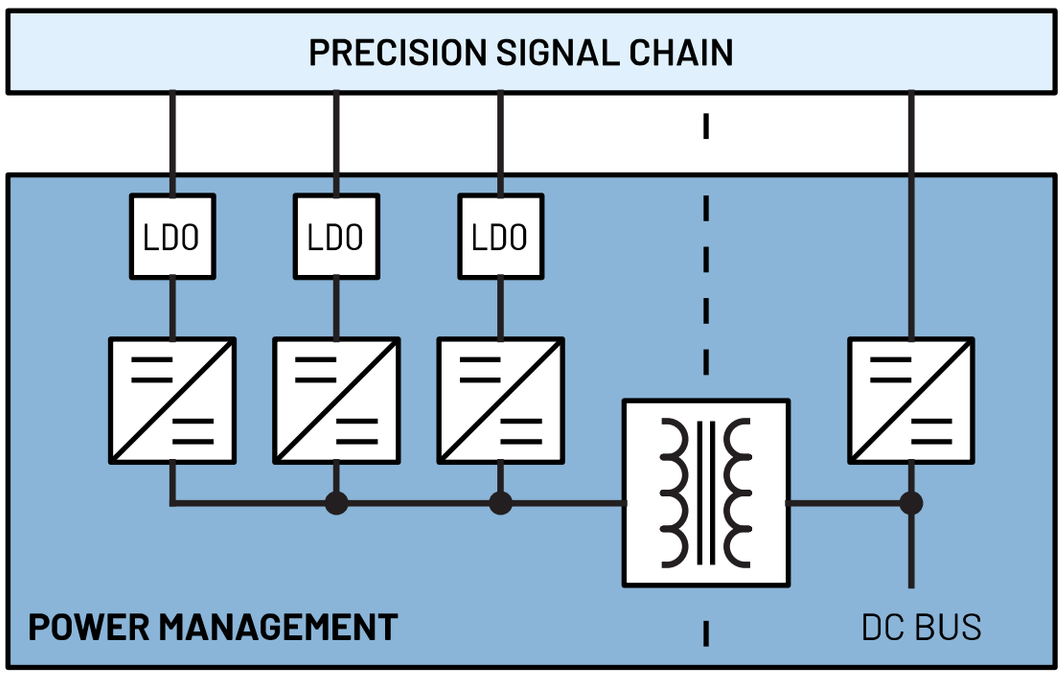


This document is interactive. You can click on any underlined text to navigate through the document.

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.

Non-isolated

1-Channel

POWER RE

PARAMETER
Supply Voltage
Supply Current
PSRR

APPENDIX | Parts Guide | Power Requirements | **USER GUIDE**

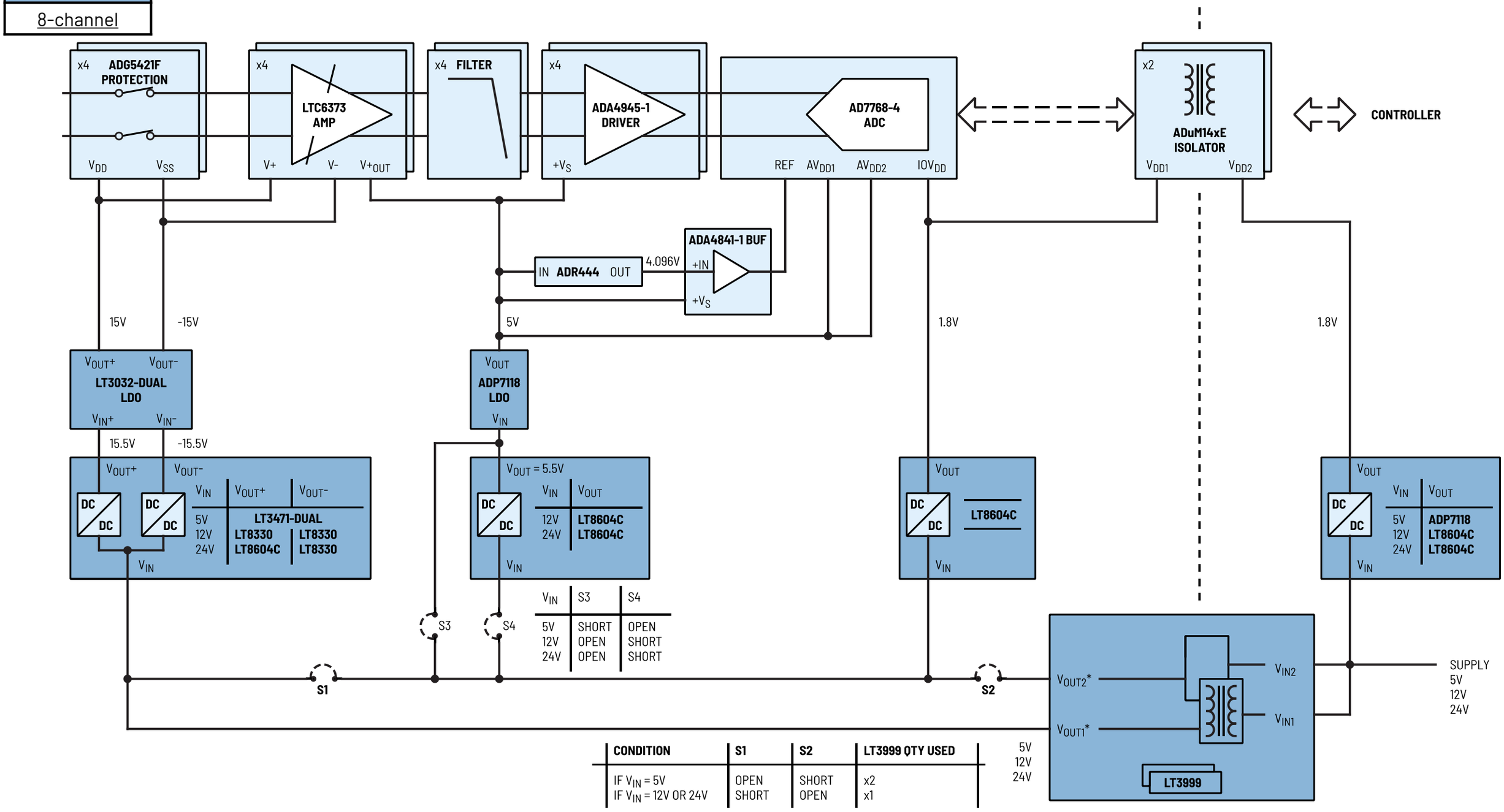
Data Acquisition – Multiple Channel

Scalable Sim Sampling

Isolated

4-channel

8-channel



CONDITION	S1	S2	LT3999 QTY USED
IF V_{IN} = 5V IF V_{IN} = 12V OR 24V	OPEN SHORT	SHORT OPEN	x2 x1

*The actual output voltage of LT3999 isolated converter depends primarily on the turns ratio of the transformer used. See LT3999 datasheet for details.

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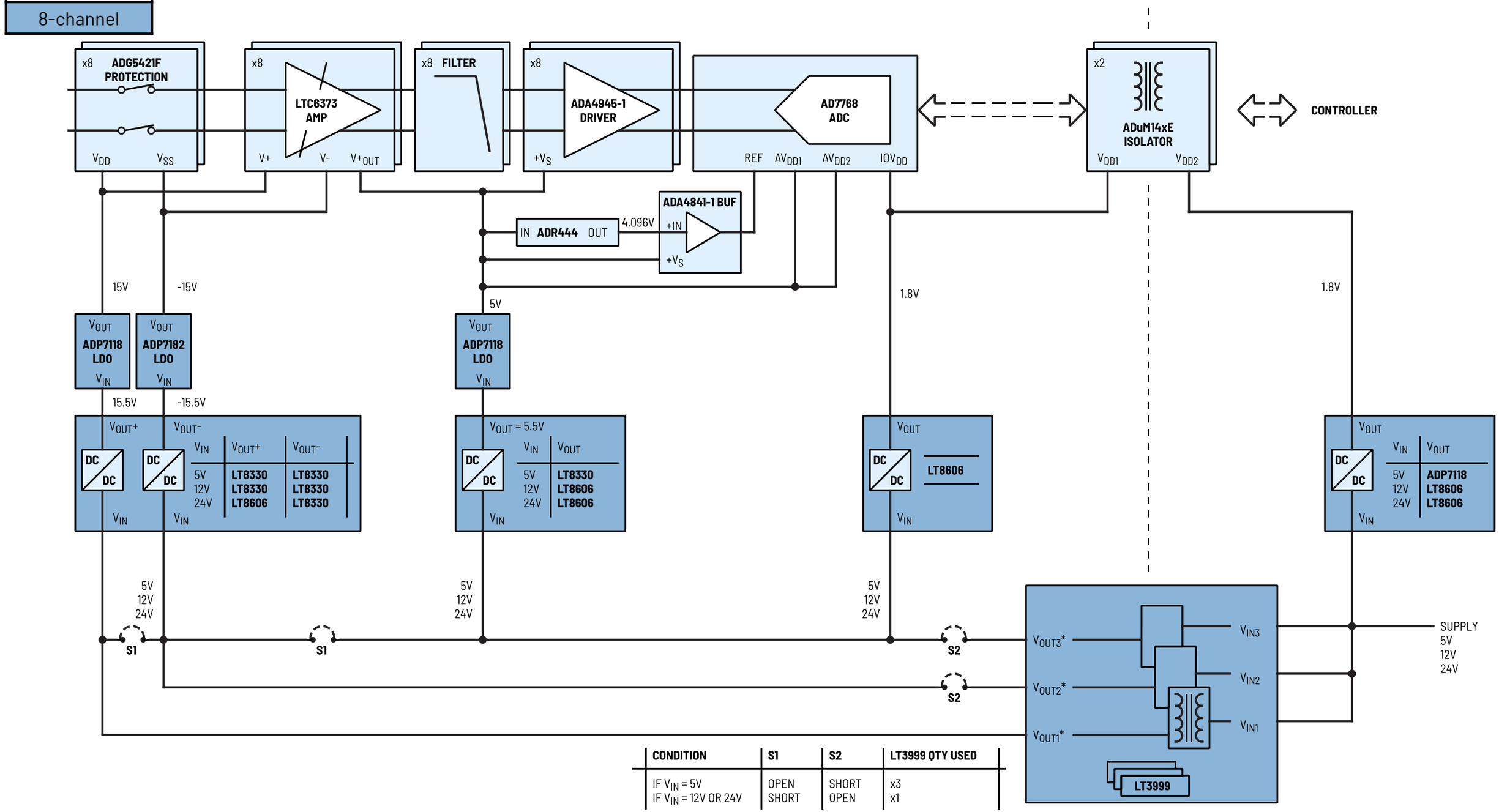
Data Acquisition – Multiple Channel

Scalable Sim Sampling

Isolated

4-channel

8-channel



CONDITION	S1	S2	LT3999 QTY USED
IF V_{IN} = 5V IF V_{IN} = 12V OR 24V	OPEN SHORT	SHORT OPEN	x3 x1

*The actual output voltage of LT3999 isolated converter depends primarily on the turns ratio of the transformer used. See LT3999 datasheet for details.

Isolated

- 4-channel
- 8-channel

PART #	DESCRIPTION
LT8604	High Efficiency 42V/120mA Synchronous Buck
LT8606	High Efficiency 42V/350mA Synchronous Buck
LT3471	Dual 1.3A, 1.2MHz Boost/Inverter in 3mm ×3mm DFN
LT8330	Low I_Q Boost/SEPIC/Inverting Converter with 1A, 60V Switch
LT3999	Low Noise, 1A, 1MHz Push-Pull DC/DC Driver with Duty Cycle Control
ADP7118	20V, 200mA, Low Noise, CMOS LDO Linear Regulator
ADP7182	–28V, –200mA, Low Noise, Linear Regulator
LT3032	Dual 150mA Positive/Negative Low Noise Low Dropout Linear Regulator

Isolated

- 4-channel
- 8-channel

POWER REQUIREMENTS

PARAMETER	STAGES	Protection		Gain			Filter	ADC Driver	ADC			Reference	Ref Buffer	Isolation	
	Part #	ADG5421F		LTC6373			-	ADA4945-1	AD7768 (AD7768-4)			ADR444	ADA4841-1	ADuM14xE	
	Pin	V_{DD}	V_{SS}	V+	V-	$V+_{OUT}$		$+V_S$	AV_{DD1}	AV_{DD2}	IOV_{DD}	IN	$+V_S$	V_{DD1}	V_{DD2}
Supply Voltage	V	15	-15	15	-15	5	-	5	5	5	1.8	5	5	1.8	1.8
Supply Current	mA	0.205	-0.115	20	-20	5	-	4.2	64 (33)	40 (20)	67 (47)	3.75	30	17	10
PSRR	dB	90 (1MHz)		67 (1MHz; G=1)	57 (1MHz; G=1)	-	-	106 (1MHz)	98 (1MHz)	98 (1MHz)	98 (1MHz)	20 (1MHz)	47 (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.