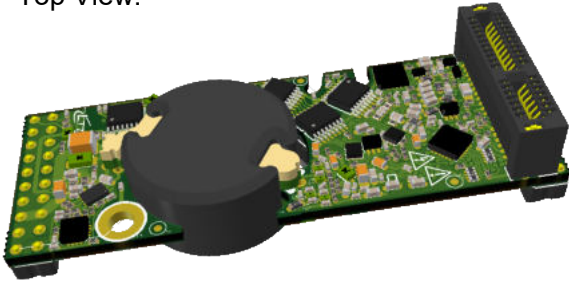


# ADCstamp® LTT1675A V2.0 2024:

## Technical Specifications

Analog Input	Characteristics
Quantization	24 Bit
Max. sample rate per channel	4 MSample/s/ch
Max. Bandwidth per channel	DC – 1.7 MHz
Filter	Analog: 1.7 MHz low pass filter. Digital: selectable
Volt Input Ranges	$\pm 250$ mV ... $\pm 1500$ V depending on external resistor
Volt Input Impedance	external resistor: 10k $\Omega$ ... 10M $\Omega$
Volt Input Couplings	- Single-Ended with 3 gains (selectable by software) - Differential-Ended with 1 fixed gain
Galvanic Isolation	$\pm 2000$ V
Dynamic range Bandwidth	5 kHz = 114 dB 50 kHz = 114 dB 1 MHz = 96 dB
ENOB (THD + noise) effective Bits dB @ 125 kHz Sample Rate	typ 14.8 Bit -90 dB
IEPE (ICP®) (optional)	Constant Current Supply: 0 ... 5mA Input Coupling: external AC or DC
Power Supply	Vsup = 12 VDC $\pm$ 5%, 2 W typical Vdd = 1.8 VDC ... 5.5 VDC, 0.3 W typical
Environmental Temperature	+1 °C to +50 °C
Sample Clock Input	16 MHz ... 32 MHz
DCDC Clock Input	1 MHz ... 2 MHz (= 1/8 of Sample Clock)
Dimensions	25.4 (w) x 68.0 (d) x 14.7 (h) mm
Specifications are subject to change without notice	V2.0

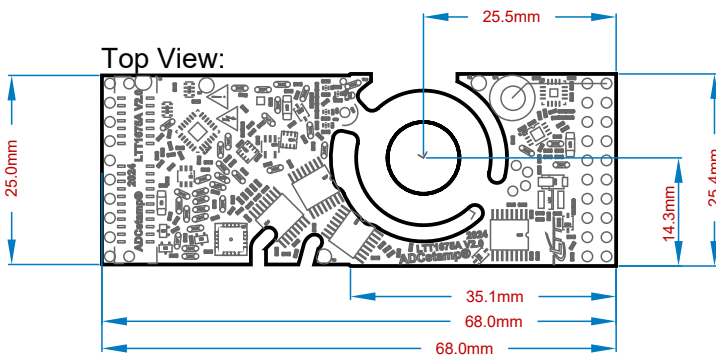
Top View:



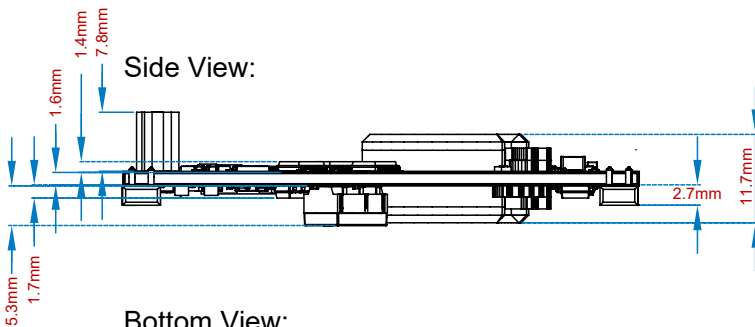
Bottom View:



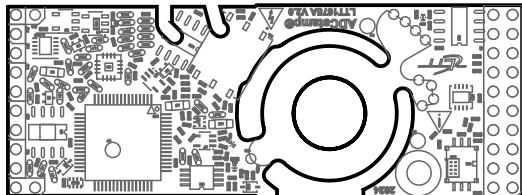
Top View:



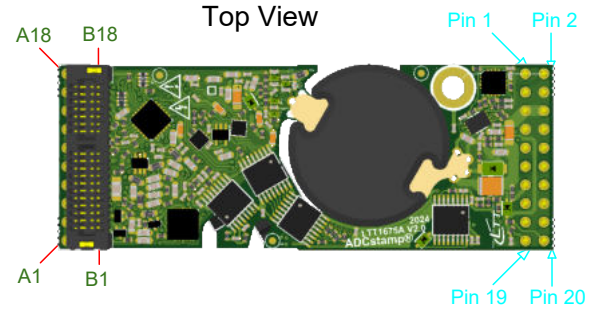
Side View:



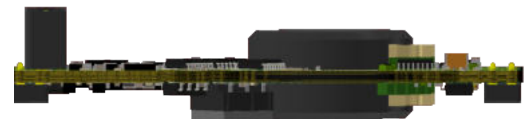
Bottom View:



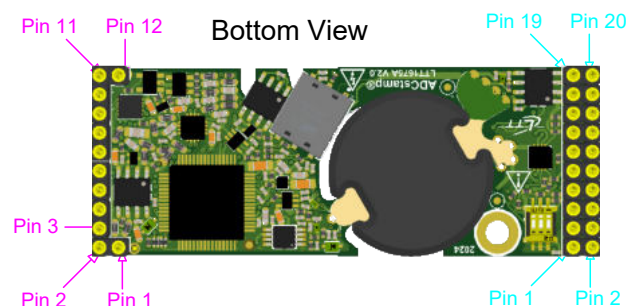
Top View



Side View



Bottom View



# Primary Connector: Pinout

Description	Name	Pin	Top View	Pin	Name	Description
Connect to protective housing	Chassis	1		2	SampleClkN	IN: LVDS or LVPECL SampleClk ≤32MHz
IN: LVDS or LVPECL SampleClk ≤32MHz	SampleClkP	3		4	GNDprim	Primary GND level (for Vsup and DigIO)
Primary Supply Voltage: 12VDC +/- 5%	12 Vsup	5		6	12 Vsup	Primary Supply Voltage: 12VDC +/- 5%
Primary GND level (for Vsup and DigIO)	GNDprim	7		8	GNDprim	Primary GND level (for Vsup and DigIO)
IN: Lo<0.4V, 0.8V<Hi<5.5V, SampleClk/8	DCDCclk	9		10	IsolDigIn	OUT: isolated digital input at secundar
OUT: ADS1675's data ready ( ≤ Vdd)	ADCdrdy	11		12	nOOR	OUT: Sinal OutOfRange if nOOR < 0.4V
Primary Digital Supply: 3.1V<Vcc<3.5V	3.3 Vcc	13		14	Vdd	Primary Digital Supply: 1.8V<Vdd<5.5V
OUT: ADS1675's serial shift clk/2 ( ≤ Vdd)	ADCsclk	15		16	GNDprim	Primary GND level (for Vsup and DigIO)
OUT: ADS1675's serial data out ( ≤ Vdd)	ADCdout	17		18	nADCstart	IN: ADCstart of ADS1675
IN: max 400kHz, Lo<0.8V, 2V<Hi<5.5V	I2C_SCL	19		20	I2C_SDA	IO: max 400kHz, Lo<0.8V, 2V<Hi<5.5V

MK228THR20G from FischerElektronik.de, 2.54mm grid: 2 x 10 contacts. Mates with 0.5mm diameter header pins.

# Secondary Connector: Pinout

Description	Name	Pin	Top View	Pin	Name	Description
Constant Current Output (0..10mA)	CCout	A18		B18	24Vout	Analog Supply OUT: 24V, 15mA
IN: external digital input 5V-CMOS	AuxDigIn	A17		B17	pICP_EN	OUT: enable external ICP supply
Secondary Digital GND	DGND	A16		B16	DGND	Secondary Digital GND
IN: < 5kR to DGND or 5Vdig	ICP_addr1	A15		B15	ICP_addr0	IN: < 5kR to DGND or 5Vdig
IN: < 5kR to DGND or 5Vdig	ICP_addr2	A14		B14	I2C_SCL	OUT: Lo<0.8V, 2V<Hi<5.5V
IN: external digital input 5V-CMOS	IsolDigIn	A13		B13	I2C_SDA	IO: Lo<0.8V, 2V<Hi<5.5V
Digital Supply OUT: 5.5V, 15mA	5Vdig	A12		B12	5Vdig	Digital Supply OUT: 5.5V, 15mA
	(key)	/		/	(key)	
	(key)	/		/	(key)	
Ext. Bistable Relay RL2 Puls_P (**)	RL2p	A11		B11	pOOR	Con. to Cathode_grn of LEDa/b(***)
Ext. Bistable Relay RL3 Puls_N (**)	RL3n	A10		B10	3.3Vdig	Digital Supply OUT: 3.3V, 15mA
Ext. Bistable Relay RL3 Puls_P (**)	RL3p	A09		B09	nOOR	Con. to Cathode_red of LEDa/b (***)
Ext. Bistable Relay RL2 Puls_N (*)	RL2n_pLEDA	A08		B08	AnalogIn_AC	Analog Input with Series Resistor R
Ext. Bistable Relay RL1 Puls_P (**)	RL1p	A07		B07	nRL1_pLEDb	Ext. Bistable Relay RL1 Puls_N (*)
Analog Supply OUT: +5.5V, 15mA	5Vdd	A06		B06	5Vdd	Analog Supply OUT: +5.5V, 15mA
keep unconnected	AuxInput_N1	A05		B05	AuxInput_P1	keep unconnected
Secondary Analog GND	AGND	A04		B04	DACout	Analog DAC Output: 0..3V, 1mA
Analog Input with Series Resistor R	AnalogIn_DC	A03		B03	AnalogIn_DC	Analog Input with Series Resistor R
Secondary Analog GND	AGND	A02		B02	AGND	Secondary Analog GND
Analog Supply OUT: -5.5V, 15mA	5Vss	A01		B01	5Vss	Analog Supply OUT: -5.5V, 15mA

(\*) Con. with 301R to center of LED(\*\*\*) and to Relay(\*\*)  
 (\*\*) Relays: IM42JR or IM42CGR  
 (\*\*\*) LEDs: LTST-S326KGJTKT

PCIE-G4-01-01-F-DV-WT-K-TR from Samtec, 1.0mm pitch: 2 x18 contacts. Mates with 1.60mm PCBs.