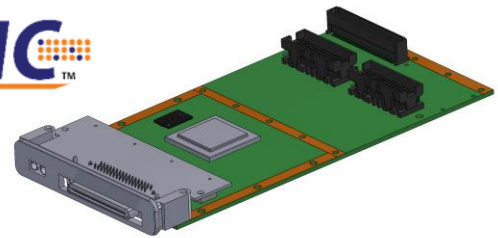
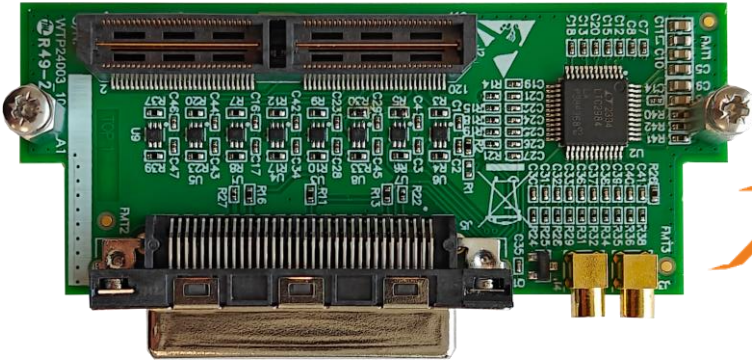




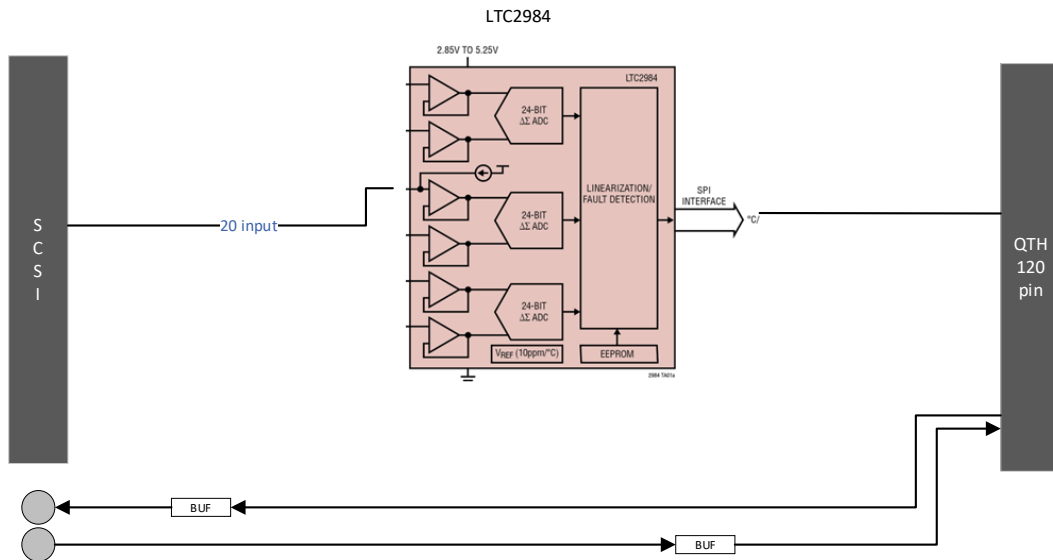
LXMC-IO-THERMO

Multi sensor temperature I/O Module



Key Features

LXMC-IO-THERMO is a 20-input channel digital temperature measurement module



I/O Module for LXMC-X101

Provides:

- ▶ 20 input channels for
 - 5x 2 points thermocouple
 - 4x 3 points RTD
 - 3x 4 points RTD

- ▶ Thermistors, diode, thermocouple
- ▶ Excitation current source and fault detection
- ▶ MMCX coaxial TTL input
- ▶ MMCX coaxial TTL output



Specification

Characteristics

- ▶ I/O Module for LXMC-X101
- ▶ Based on LTC2984

Environmental

- ▶ Commercial operating temperature (N-grade): 0°C to +55°C, air cooled
- ▶ Extended operating temperature (E-grade): -25°C to +70°C, air cooled
- ▶ Industrial operating temperature (K-grade): -40°C to +70°C, air cooled

Mechanical

- ▶ LXMC-IO form factor

Firmware (available through the LVD FPGA FDK – to be ordered separately)

- ▶ PCIe
- ▶ 4 channel DMA
- ▶ Example design
- ▶ Full source code

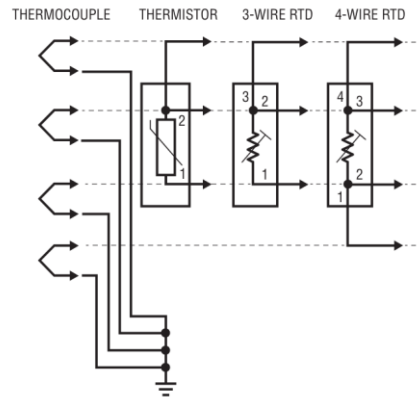
Software (available through the LVD FPGA SDK – to be ordered separately)

- ▶ Linux driver
- ▶ RTX driver (available on demand)
- ▶ Full source code

Certification

- ▶ REACH / RoHS compliant

Sensor connection diagram



SENSOR TYPE	TEMPERATURE RANGE	ERROR CONTRIBUTION	PEAK-TO-PEAK NOISE
Type K Thermocouple	-200°C to 0°C 0°C to 1372°C	$\pm(\text{Temperature} \cdot 0.23\% + 0.05)^\circ\text{C}$ $\pm(\text{Temperature} \cdot 0.12\% + 0.05)^\circ\text{C}$	$\pm 0.08^\circ\text{C}$
Type J Thermocouple	-210°C to 0°C 0°C to 1200°C	$\pm(\text{Temperature} \cdot 0.23\% + 0.05)^\circ\text{C}$ $\pm(\text{Temperature} \cdot 0.12\% + 0.05)^\circ\text{C}$	$\pm 0.07^\circ\text{C}$
Type E Thermocouple	-200°C to 0°C 0°C to 1000°C	$\pm(\text{Temperature} \cdot 0.18\% + 0.05)^\circ\text{C}$ $\pm(\text{Temperature} \cdot 0.10\% + 0.05)^\circ\text{C}$	$\pm 0.06^\circ\text{C}$
Type N Thermocouple	-200°C to 0°C 0°C to 1300°C	$\pm(\text{Temperature} \cdot 0.27\% + 0.08)^\circ\text{C}$ $\pm(\text{Temperature} \cdot 0.10\% + 0.08)^\circ\text{C}$	$\pm 0.13^\circ\text{C}$
Type R Thermocouple	0°C to 1768°C	$\pm(\text{Temperature} \cdot 0.10\% + 0.4)^\circ\text{C}$	$\pm 0.62^\circ\text{C}$
Type S Thermocouple	0°C to 1768°C	$\pm(\text{Temperature} \cdot 0.10\% + 0.4)^\circ\text{C}$	$\pm 0.62^\circ\text{C}$
Type B Thermocouple	400°C to 1820°C	$\pm(\text{Temperature} \cdot 0.10\%)^\circ\text{C}$	$\pm 0.83^\circ\text{C}$
Type T Thermocouple	-250°C to 0°C 0°C to 400°C	$\pm(\text{Temperature} \cdot 0.15\% + 0.05)^\circ\text{C}$ $\pm(\text{Temperature} \cdot 0.10\% + 0.05)^\circ\text{C}$	$\pm 0.09^\circ\text{C}$
External Diode (2 Reading)	-40°C to 85°C	$\pm 0.25^\circ\text{C}$	$\pm 0.05^\circ\text{C}$
External Diode (3 Reading)	-40°C to 85°C	$\pm 0.25^\circ\text{C}$	$\pm 0.2^\circ\text{C}$
Platinum RTD – PT-10, $R_{\text{SENSE}} = 1\text{k}\Omega$	-200°C to 800°C	$\pm 0.1^\circ\text{C}$	$\pm 0.05^\circ\text{C}$
Platinum RTD – PT-100, $R_{\text{SENSE}} = 2\text{k}\Omega$	-200°C to 800°C	$\pm 0.1^\circ\text{C}$	$\pm 0.05^\circ\text{C}$
Platinum RTD – PT-500, $R_{\text{SENSE}} = 2\text{k}\Omega$	-200°C to 800°C	$\pm 0.1^\circ\text{C}$	$\pm 0.02^\circ\text{C}$
Platinum RTD – PT-1000, $R_{\text{SENSE}} = 2\text{k}\Omega$	-200°C to 800°C	$\pm 0.1^\circ\text{C}$	$\pm 0.01^\circ\text{C}$
Thermistor, $R_{\text{SENSE}} = 10\text{k}\Omega$	-40°C to 85°C	$\pm 0.1^\circ\text{C}$	$\pm 0.01^\circ\text{C}$

Ordering information

Base Part Number: LXMC-IO-THERMO-t

Variant	Grade
LXMC-IO-THERMO	N-grade
LXMC-IO-THERMO-E	E-grade
LXMC-IO-THERMO-K	K-grade

Related products

LXMC-X101 LXMC FPGA Board

Popular Example: LXMC-IO-THERMO

commercial temperature grade module

Please contact directly LVD Systems for any other information needed for this product



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