

DIGITAL MICRO CRYOCOOLER ELECTRONICS μ DCE050

- **Very compact & lightweight**
- **High efficiency**
- **Improved temperature stability**
- **Split supply voltages for cooler and controller for best SNR performance and high voltage operation $\leq 36V$**
- **Enhanced telecommand and measuring capability**
- **REACH & RoHS compliance**

AIM's digital micro cryocooler electronics is designed to meet the demand on lightweight and compact high performance technology.

The μ DCE050 low power electronics will serve cryocoolers up to $50W_{DC}$ with an easy to use single board design at reduced cost. The improved temperature measurement circuitry and the split supply voltage design for cryocooler and controller result in a better set point stability with reduced overall dimensions.

For noise sensitive applications, an additional synchronization interface is available to eliminate the need of large filter components.

The software based control loop of input power and operating temperature can be adapted for a wide range of heat loads and motor characteristics.

For a fast setup and easy handling, the μ DCE050 can be controlled via an external PC through a RS232 interface.

A LabView™ based Graphical User Interface (GUI) for easy operation and full access to all operating data and control characteristics is complementarily available.

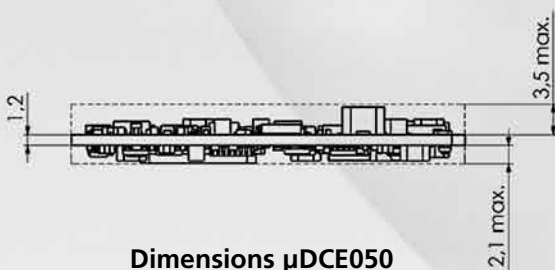
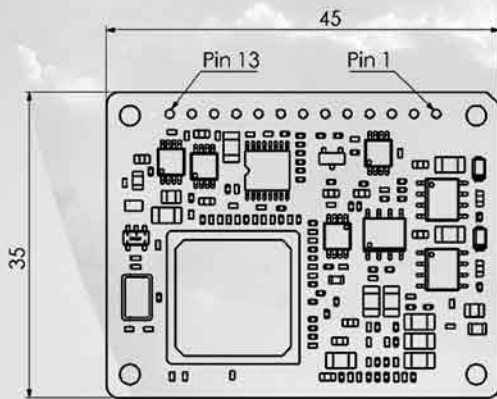
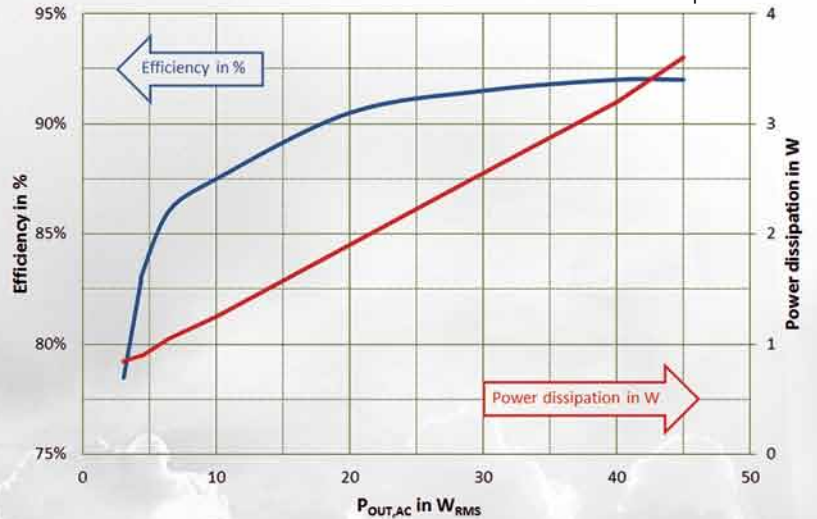


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Applications

- Long life cryocoolers for 24/7 applications
- Scientific and commercial instruments
- Portable cooled devices
- Ambient temperature at -40°C to $+75^{\circ}\text{C}$
- Connectivity through RS232

Typical Efficiency Data
 μ DCE050



Dimensions μ DCE050

	μ DCE050
Electronics height [mm]	7
Electronics dimension [mm]	45 x 35
Electronics weight [g]	10
Cooler supply voltage (nom.) [V_{DC}]	8 - 16 (12)
Opt. cooler voltage (nom.) [V_{DC}]	8 - 36 (28)
Nominal input power range* [W_{DC}]	0 - 50
Typ. temperature stability [mK]	± 25
EMI requirements	MIL-STD-461F
Digital interface	RS232
Ambient temperature range [$^{\circ}\text{C}$]	-40 to $+75$
Compatible Cryocoolers	SX020, SX030, SX035, SX040, SX095, SF070, SF100

*Max. input power depends on the supply voltage



AIM Infrarot-Module GmbH
 Theresienstraße 2
 74072 Heilbronn/Germany
 Tel.: +49 7131 6212 - 310
 Fax: +49 7131 6212 - 399
 info@aim-ir.com
 www.aim-ir.com