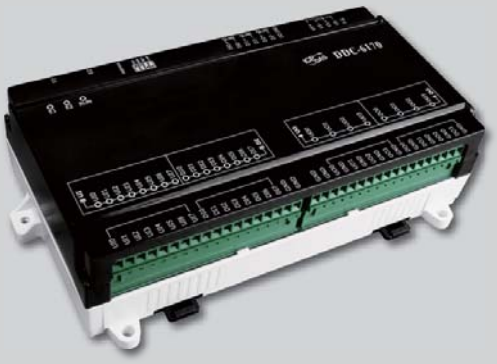


DDC-6170

24-channel DDC Controller

Features

- Built-in ISaGRAF Ver.3 SoftLogic
- IEC 61131-3 PLC Programming Languages
- Non-volatile Program Memory Device (Flash Memory) that can store Data to prevent Data Loss when the device is Powered off
- Built-in Watchdog Timer (WDT) to increase System Stability
- Dual 10/100M Ethernet Port
- Support the Modbus RTU/TCP Protocol
- RS-485 Connection to Remote I/O Devices
- PID Control
- Tempreature/Humidity Control
- Independent (Standalone) Direct Digital Controller
- Wide Operating Temperature Range: -25°C to +75°C

Introduction

The DDC-6170 is a 24-channel standalone programmable DDC controller with onboard I/O that is especially designed for building automation applications, enabling efficient and versatile temperature control. The controller provides software selectable universal input and output, Digital Input and Digital Output, and includes flexible options that satisfy the majority of application requirements. Its compact size makes it an ideal solution to meet the installation needs of a building automation environment. The DDC-6026, DDC-6055 and DDC-6051 I/O expansion modules can be used to provide additional I/O channels, ensuring that the system is a fully scalable solution. The DDC-6170 also features an ISaGRAF programming tool that enables users to quickly develop custom applications. The ISaGRAF tool provides a wide range of function blocks suitable for building automation applications, such as a scheduler, HVAC calculation, sequential control, PID control, and alarm and event notifications. The DDC-6170 is mainly used in building control and plant monitoring, focused on areas such as monitoring of air conditioning, lighting, and power control systems, and is ideal for factories, offices, conference rooms, restaurants, and hotels, etc.

System Specifications

CPU	
CPU	80186, 80 MHz
Memory	512 KB Flash, 512 KB SRAM + 512 KB MRAM 16 KB SRAM and 512-byte EEPROM
Ethernet	
Interface	2 x RJ-45, 10/100 Base-TX, Switch Ports
Security	ID, Password and IP Filter
Protocol	Modbus/TCP
RS-485	
Interface	RS-485 x 3
Format	N, 8, 1
Baud Rate	1200 to 115200 bps
Protocol	Modbus/RTU
Dual Watchdog	Yes, Module (2.3 seconds), Communication (Programmable)
Isolation	
Ethernet	1500 VDC
RS-485	2500 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal
	±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power Line
	±1 kV for RS-485
Power Requirements	
Reverse Polarity Protection	Yes
Power from Terminal Block	Yes, 24 VAC or 24 VDC
Fuse Protection	Yes, 1 A
Power Consumption	6 W Max.
Mechanical	
Dimensions (W x L x H)	240 mm x 135 mm x 65 mm
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-25 to +75°C
Humidity	10 to 95% RH, Non-condensing

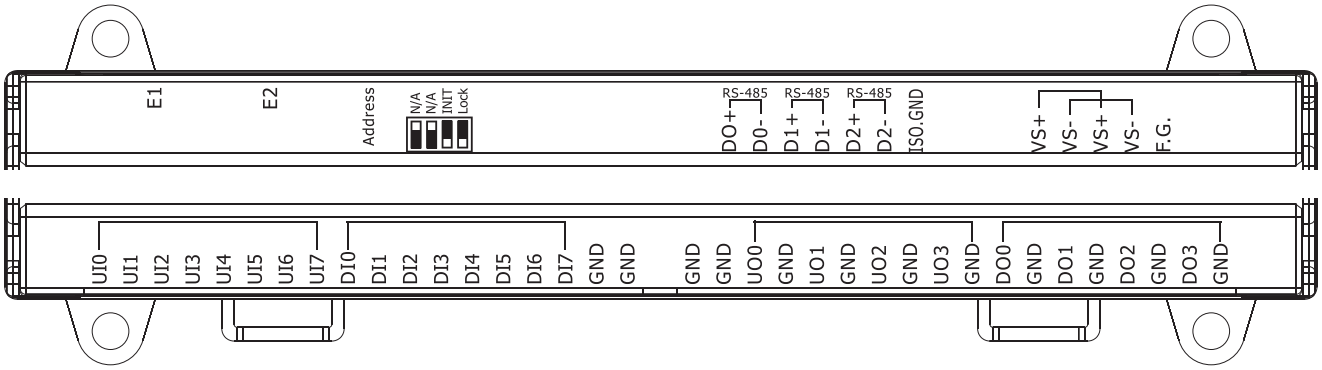
I/O Specifications

Universal Input		
Channels		8
Type		NTC Thermistors / +4 to +20 mA / 0 to +20 mA / +2 to +10 VDC / 0 to +10 VDC / Digital Input, by Software Selectable
Resolution		16-bit
Accuracy		±0.1% of FSR
Over Voltage Protection		120 VDC
Universal Output		
Channels		4
Type		+4 to +20 mA / 0 to +20 mA / +2 to +10 VDC / 0 to +10 VDC / Digital Output, by Software Selectable
Resolution		10-bit
Accuracy		±0.1% of FSR
Digital Input		
Channels		8
Type		Dry Contact
Sink/Source		Source
Dry Contact	On Voltage Level	Close to GND
	Off Voltage Level	Open
Counters	Channels	8
	Max. Count	16-bit (65535)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Digital Output		
Channels		4
Type		Open Source
Sink/Source		Source
Max. Load Current		250 mA/channel
Overload Protection		Yes
Load Voltage		+24 VDC ±10%
Overvoltage Protection		47 VDC
Short Circuit Protection		Yes

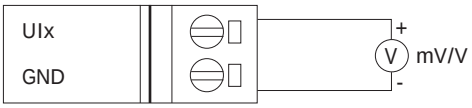
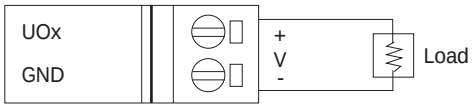
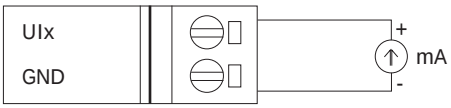
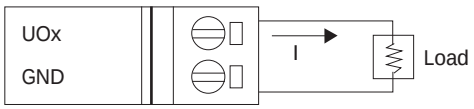
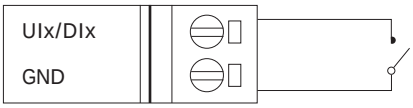
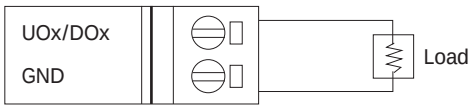
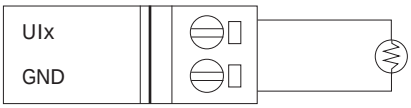
Applications

- Industrial Automation
- Building Automation
- Food and Beverage Systems
- Control Systems

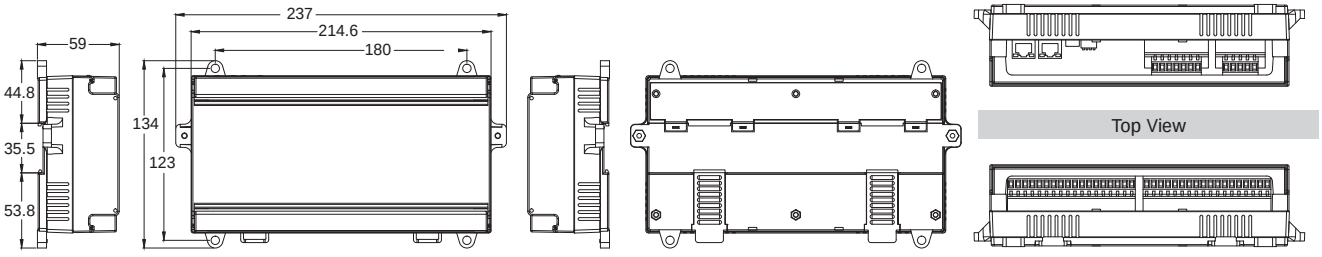
Pin Assignments



Wire Connections

Voltage Input	Voltage Output
	
Current Input	**Current Output**
	
Digital Input	**Digital Output**
	
Thermocouple Input	
	

Dimensions (Units: mm)



Left View | Front View | Right View | Rear View | Top View | Bottom View

Ordering Information

DDC-6170 CR	24-channel DDC Controller (Includes 8-channel Universal Input, 4-channel Universal Output, 8-channel Digital Input and 4-channel Digital Output) (RoHS)