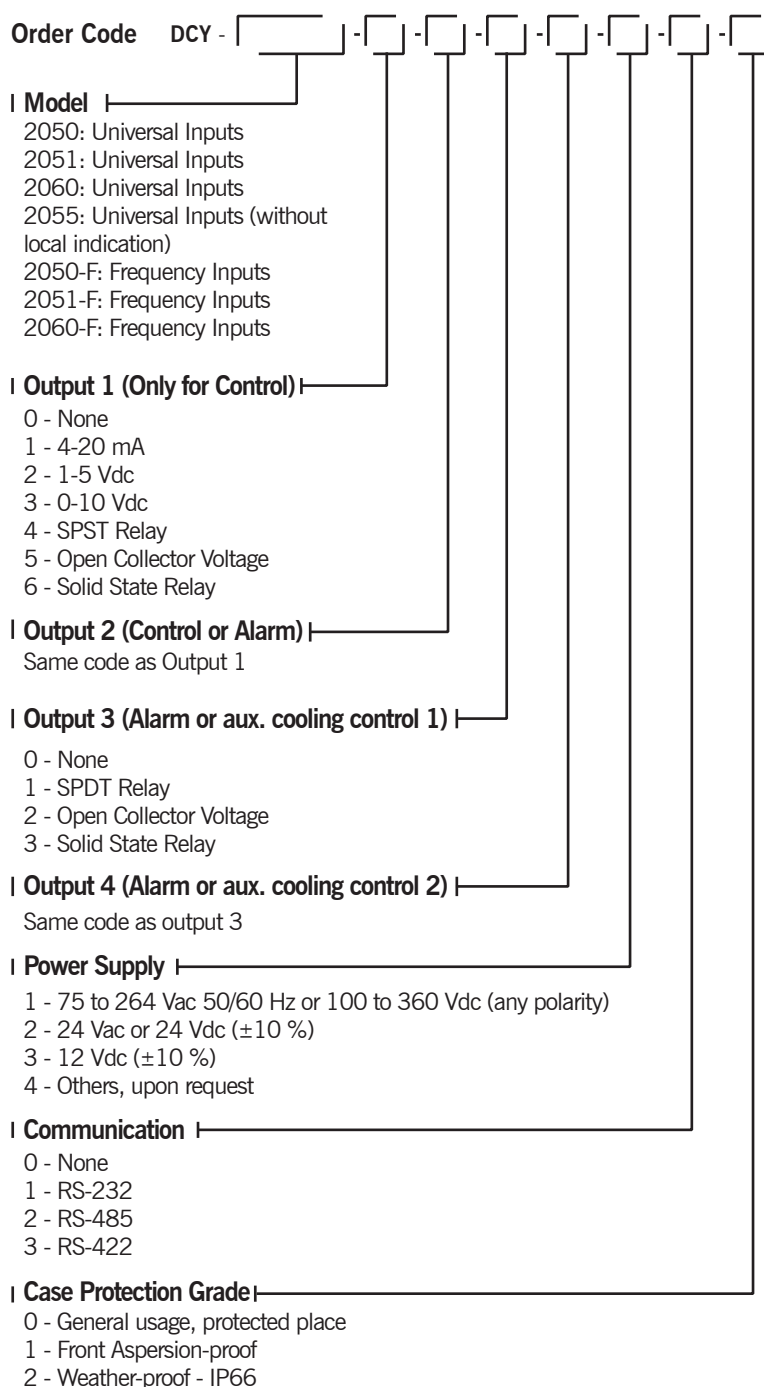




## Universal Process Controllers - Dual Loop

- Two standard universal inputs for RTD, thermocouples, 0-55 mV, 4-20 mA, 1-5 Vdc and 0-10 Vdc.
- F versions for frequency inputs up to 30 kHz, from 300 mVpp to 30 Vpp.
- Up to 2 universal output modules for 4-20 mA, 1-5 Vdc and 0-10 Vdc, one for control and one for retransmission, relay, solid state relay and open collector voltage isolated from inputs and power supply.
- Reduced dimensions and high control capacity, performing the functions of:
  - Auto-Tune.
  - ON-OFF, P-PI-PD-PID, ratio, cascade control.
  - Heating-cooling, time-proportional.
  - Remote setpoint, programmable setpoint up to ten segments.
  - Auto/manual station.
- Several optional:
  - Up to 3 SPDT and SPST relay alarm modules;
  - RS-232 or RS-422/485 Communication;
- Linearization for RTD and TC and also square root extraction.
- Configuration stored in non-volatile memory.
- Also available in the model DCY-2055, without local indication, configurable via serial communication or through portable programmer.



**Dimensions**  
310 x 310 x 200 mm (HxWxD)

**Weight**  
11 kg nominal

## Specifications

### Entradas

**DCY-2050 / 2051 / 2060 / 2055:** Configurable inputs for thermocouple (J, K, T, E, R, S under ITS-90), 0-55 mV, RTD Pt-100 under DIN43760, 4-20 mA, 1-5 Vdc and 0-10 Vdc. Input for remote setpoint configurable for 4-20 mA, 1-5 Vdc and 0-10 Vdc. 250  $\Omega$  input impedance for mA, > 10 M $\Omega$  up to 5 Vdc and 2 M $\Omega$  above 5 Vdc.

### DCY-2050-F / 2051-F / 2060-F:

Frequency inputs for signals up to 30 kHz, from 300 mVpp to 30 Vpp. DIN-19234 compliance for intrinsically safe NAMUR sensors.

### Control Functions

ON-OFF, PID, PID with AUTO-TUNE, Heating-cooling, Ratio, Cascade, Remote Set point and programmable set point.

### Control Outputs

Analog 4-20 mA (750  $\Omega$  maximum load), 1-5 Vdc or 0-10 Vdc. Up to two optional module galvanically isolated to 300 Vac from power supply and inputs. SPST relay rated for 3A/220 Vac. Open collector transistor (24 Vdc/40 mA maximum with isolation). Solid state relay (2A/250 Vac with isolation).

### Alarm Outputs

SPDT relay rated for 3A/220 Vac. Open collector transistor (24 Vdc/40 mA maximum with isolation). Solid state relay (2A/250 Vac with isolation).

### Serial Communication

RS-232 or RS-422/485 with 50 Vdc isolation. MODBUS®-RTU Communication Protocol.

### Indication

DCY-2050 / 2050-F: Two 4-digit displays (9 mm).  
DCY-2051 / 2051-F: Two 4-digit displays (14 mm / 9 mm).  
DCY-2060 / 2060-F: Two 4-digit displays (14 mm).  
DCY-2055: Without local indication.  
Can be configured together with the decimal point.

### Configuration

DCY-2050 / DCY-2051 / DCY-2060: By front-panel push-buttons and internal jumpers. DCY-2055: Via serial communication or MCY-25 configuration module.

### Sampling Rate

130 ms standard. Half second display update rate.

### Accuracy

$\pm 0.1\%$  of full scale for TC, RTD, mA, mV and Vdc inputs.  
 $\pm 0.5\%$  of full scale for analog retransmitter output.  
 $\pm 1$  display resolution for frequency input.

### Linearization

$\pm 0.1^\circ\text{C}$  for RTD and  $\pm 0.2^\circ\text{C}$  for TC.

### Square Root Extraction

$\pm 0.5\%$  of reading, for inputs above 10 % of span.  
Programmable Cut-off from 0 to 5 %.

### Cold Junction Compensation

$\pm 2.0^\circ\text{C}$  at range from 0-60  $^\circ\text{C}$  ambient temperature.

### 2-wire transmitter Power Supply

24 Vdc/50 mA maximum, isolated from output, with short circuit protection.

### Span Temperature Coefficient

$\pm 0.005\%$  of span /  $^\circ\text{C}$  for auxiliary input. Reference temperature: 25  $^\circ\text{C}$ .

### Power Supply

75 to 264 Vac 50/60 Hz or 100 to 360 Vdc  
(10 W nominal); 24 Vac/dc ( $\pm 10\%$ ); 12 Vdc ( $\pm 10\%$ ).

### Operating Range

0 to 60  $^\circ\text{C}$  temperature and 90 % maximum relative humidity.

### Dimensions

DCY-2050 / 2050-F: 1/8 DIN (96 x 48 x 187 mm) HxWxD, (92 x 45 mm) HxW panel cutout.  
DCY-2051 / 2051-F: 1/8 DIN (48 x 96 x 187 mm) HxWxD, (45 x 92 mm) HxW panel cutout.  
DCY-2060 / 2060-F: 1/4 DIN (96 x 96 x 187 mm) HxWxD, (92 x 92 mm) HxW panel cutout.  
DCY-2055: (140 x 53 x 175 mm) HxWxD.

### Weight

0.5 kg nominal (DCY-2050/2051)  
0.6 kg nominal (DCY-2060/2055)

### Warranty

One year.