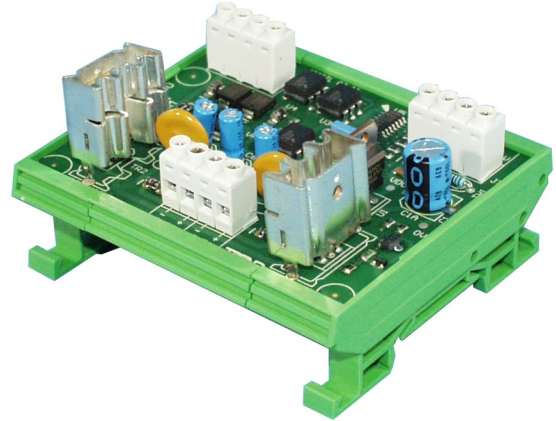


DPCM/24VAC Dual Phase Cut Module

DPCM/24VAC Dual Phase Cut Module



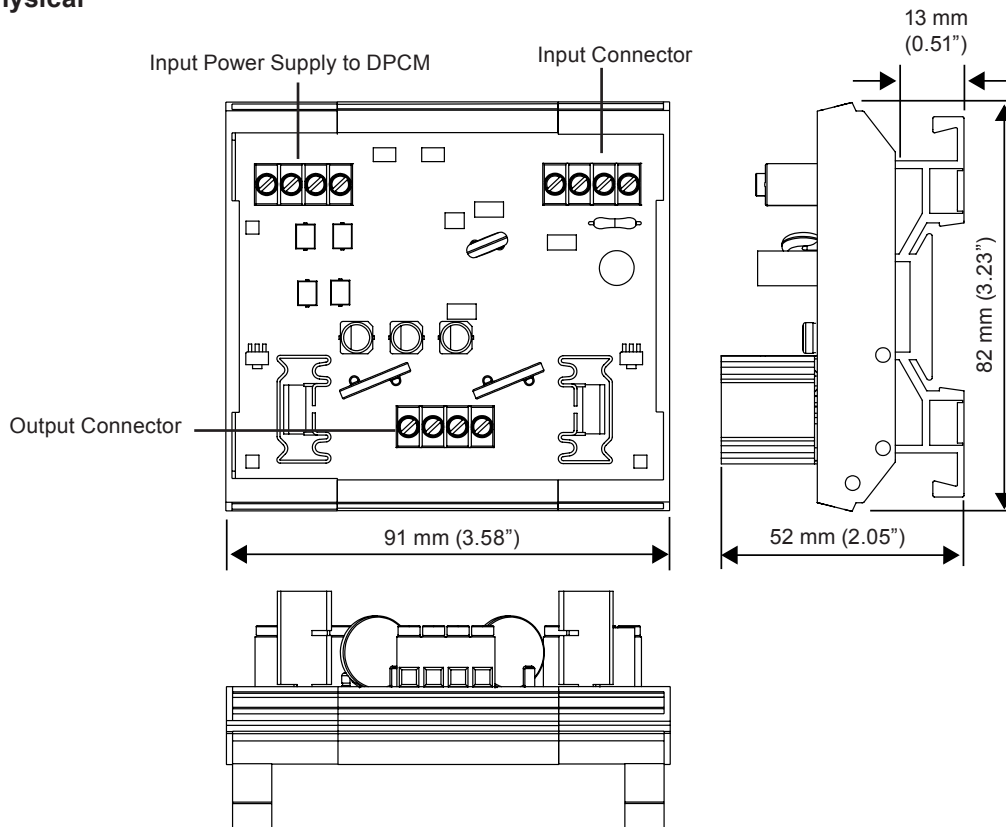
Description

The Dual Phase Cut Module converts two controller analogue output signals to two 20 V phase cut signals for controlling valves and actuators in heating and ventilating equipment. Opto-isolation is used to isolate the control signals from the outputs to ensure that no ground conflicts can occur. The module may be mounted on a standard DIN rail.

Features

- Converts 2 analogue outputs to two 20 V phase cut outputs.
- Drives up to 15 VA max per channel
- Standard DIN rail mounting
- 24 Vac/dc input power supply

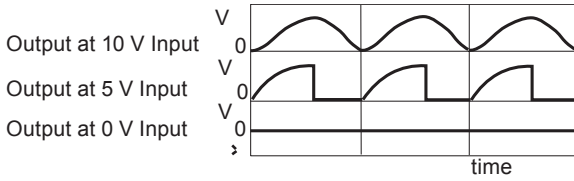
Physical



FUNCTIONALITY

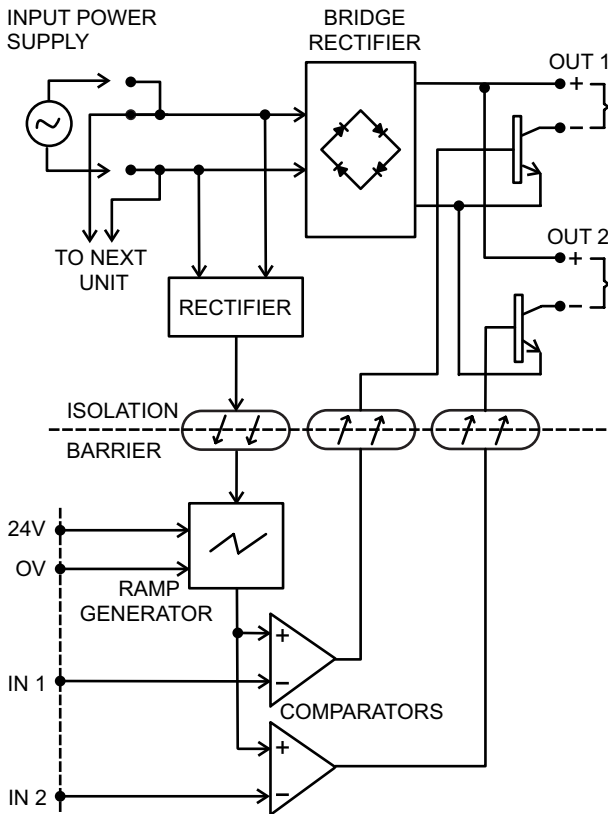
The DPCM converts two 0 to 10 volt signals into two 20 V phase cut signals. At 10 V input the output is a 20 V rectified AC. As

the input decreases the proportion of the half cycle for which the output is chopped to 0 V increases.



If the 24 Vac/dc control power is removed, both outputs will be full on. If a 0 to 10 V control signal is disconnected, then that channel will be off.

DUAL PHASE CUT MODULE BLOCK DIAGRAM



CAUTION

No circuit protection is provided against output short circuits; if this occurs the circuit may be damaged. The outputs must not be connected when the DPCM is powered. The output circuit must not contain any other switch circuit, such as manual override; if required, these must be implemented either in the controller strategy, or in the 10 V signal. The output should be connected only to their loads (i.e. kept isolated from earth (ground) or other supplies).

Mounting: The DPCM is designed to be mounted on a standard DIN rail.

Input Power Supply connection: The DPCM's control power connection is made to a 24 Vdc (e.g. IQ's auxiliary output supply) or 24 Vac supply (isolated or earthed, grounded, to IQ earth, ground) using the 0 V to 24 V terminals.

The 24 Vac supply to the output channels is connected between AC1 or AC2; since the output circuit is opto-isolated, this supply is not required to be isolated.

The DPCM may use the same 24 Vac supply for both its control power and output channel power; the supply must be isolated or earthed (grounded) to IQ earth (ground).

Connectors: 1 part screw terminals for 0.5 to 2.5 mm² cross sectional area (14 to 20 AWG) cable are used for inputs, outputs, and input power supply connection. All terminals are rising cage clamp.

INSTALLATION

The DPCM should be mounted in a protective case close to the IQ controller. The procedure involves:

- Mount DPCM in position.
- Set IQ output channel for voltage.
- Wire DPCM to controller.
- Wire DPCM to plant.
- Connect 24 V supplies.
- Check operation.


The installation procedure is covered in the DPCM (24 Vac/dc) Installation Instructions (TG200482).

DISPOSAL

COSHH (Control Of Substances Hazardous to Health - UK Government Regulations 2002) ASSESSMENT FOR DISPOSAL OF DPCM. No parts affected.

RECYCLING. 

All plastic and metal parts are recyclable. The printed circuit board may be sent to any PCB recovery contractor to recover some of the components for any metals such as gold and silver.

	WEEE Directive: At the end of their useful life the packaging, and product, should be disposed of by a suitable recycling centre. Do not dispose of with normal household waste. Do not burn.
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ORDER CODES

DPCM/24VAC

1 off DPCM module for DIN rail mounting.

SPECIFICATIONS

Electrical

Control supply volts	:24 Vdc or Vac \pm 20%
Control supply current	
24 Vac	:64 mA
24 Vdc	:30 mA
Output supply	:24 Vac \pm 10% 47 to 63 Hz, 30 VA maximum.
Control Signals	:0 to 10 Vdc, 2 mA max per channel.
Outputs	:20 V nominal, phase cut of supply frequency, 15 VA max per channel.

Mechanical

Dimensions	:82 mm (3.23") x 91 mm (3.58") x 52 mm (2.05") .
Connectors	:Single part with rising cage clamp terminals for 0.5 to 2.5 mm ² cross section area (14 to 20 AWG) cable.
DIN rail	:Top hat profile (DIN46277-3, EN50022, BS5584:1978).

Environmental

Safety	:EN61010.
Ambient limits	
storage	:-10 °C (14 °F) to +70 °C (158 °F)
operating	:-10 °C (14 °F) to +50 °C (122 °F)
humidity	:0 to 90 %RH non-condensing

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