



ENCODER DIVIDER MODULE

>> DEEX SERIES <<

- » Divides input frequency - Range of 1 to 4096
- » Optical isolation between input and outputs
- » Push-pull outputs with short circuit protection
- » HTL output power range with reverse polarity protection
- » Frequency up to 200KHz
- » TTL or HTL configurable input power supply

MAIN FEATURES

The Integer Encoder Divider Module (DEE) allows the user to reduce the number of pulses per encoder revolution. The user can selected the division number through DIPSWITCH in the range from 1 to 4096. Added to this the DEE eliminates any invalid input transition, generating only valid transitions at their outputs.

In addition, the DEE allows the change of signal levels, the increase the quantity of outputs or regeneration of signal when the cable length is extensive.

The input signals of DEE (A-B-Z) may be single-ended or differential in both 5V and 24V. In either case, the inputs are opto-coupled to isolate the outputs of the DEE of the encoder inputs, avoiding problems of electric noise and ground.

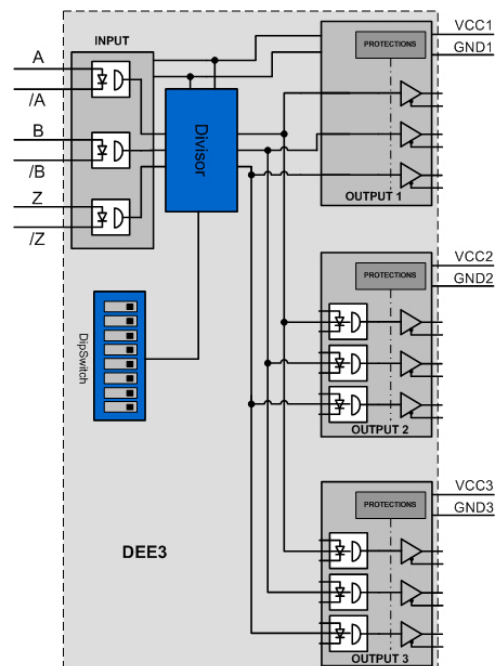
The outputs are push-pull type, have short circuit protection and diagnostics for low power, can each deliver 100mA. The power supply range is 12-30 Vdc. Each group of outputs has led indicators of 'Vcc' and 'Failure'.

DEE module has two versions: the DEE1 having an input (A-B-Z) and one output (A1-B1-Z1); and DEE3 which has one input and three outputs (A1-B1-Z1) (A2-B2-Z2) (A3-B3-Z3). All outputs have available their inverted signals.

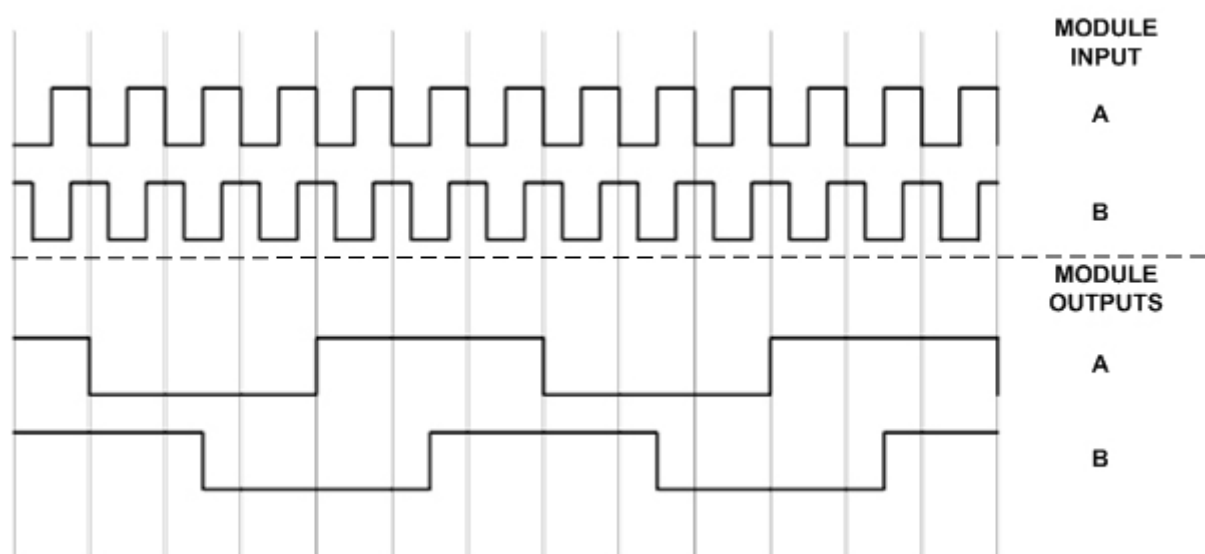
The maximum operating frequency for both versions is 200kHz.

TECHNICAL FEATURES

Symbol	Description	Min.	Typ.	Max.	Units
VCCn	Supply Voltage (TTL and HTL versions)	12	24	30	[V]
	Low Voltage Protection		10.8		[V]
	Inputs				
	Input Voltage ON (24V Version)	10	24	30	[V]
	Input Voltage ON (5V Version)	3	5	8	[V]
	Input Voltage OFF (24V Version)			4	[V]
	Input Voltage OFF (5V Version)			2	[V]
	Impedance (24V Version)		2760		[Ohm]
	Impedance (5V Version)		560		[Ohm]
	Outputs				
	Outputs Voltage		VCCn-0.5		[V]
	Outputs Current			100	[mA]
	Frequency			200	[KHz]
	Input/Outputs Isolation	1000			[VDC]
	Division Range	1		4096	

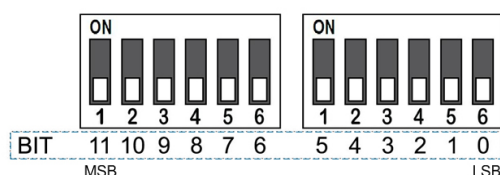


WAVEFORMS

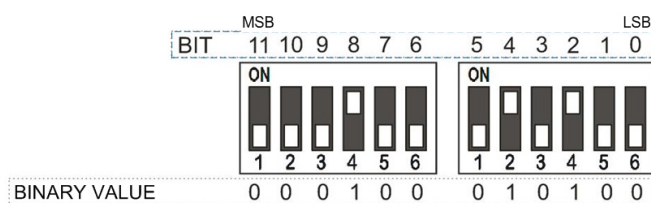


SETTING DIVISION VALUES

The user must select the division values without power supply by means of two DIP switches placed in the board. Together form the value as 12-bit binary number, the position of each bit is detailed the following figure:

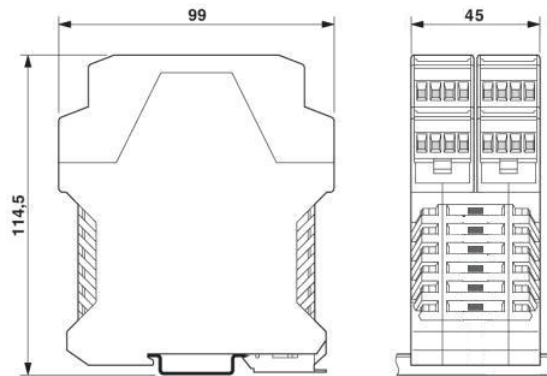
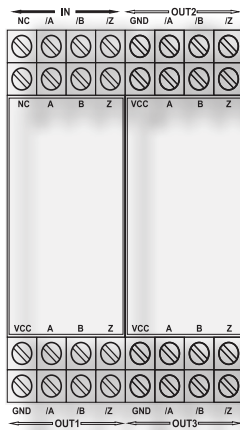


Selection example: for decimal value 276 its binary equivalent being $(2^8 + 2^4 + 2^2)$. In this case the user must set the DIP switches as shown in the following figure:



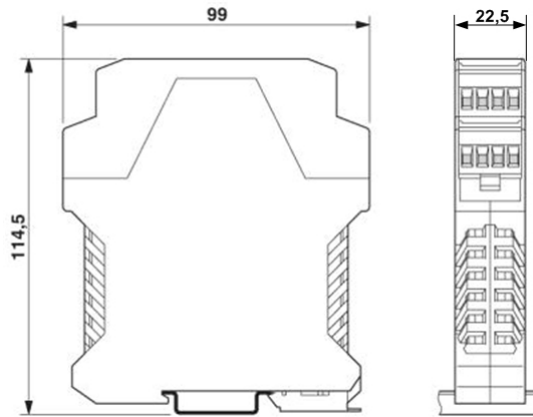
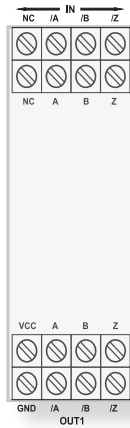
Note: set binary value 0 (zero) in DIP switches is equivalent to divide by 4096.

DEE3 WIRING DIAGRAM AND DIMENSIONS



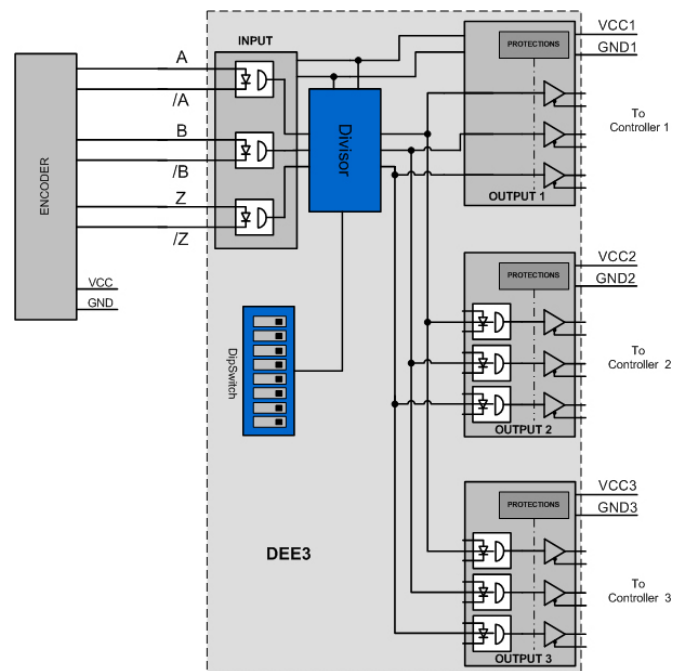
DIN Rail Mounting

DEE1 WIRING DIAGRAM AND DIMENSIONS

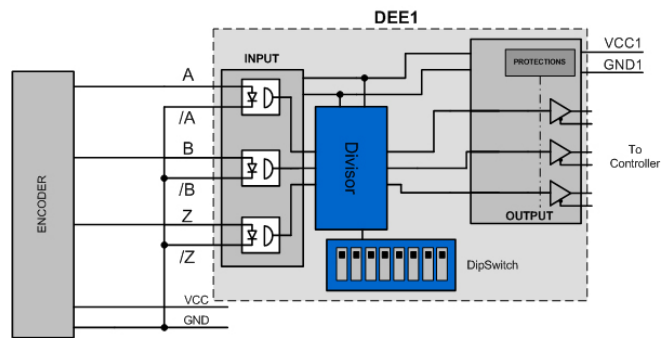


DIN Rail Mounting

DIFFERENTIAL WIRING EXAMPLE



SINGLE-ENDED WIRING EXAMPLE



PRODUCT CODES

INPUT VOLTAGE	OUTPUT VOLTAGE 1	OUTPUT VOLTAGE 2	OUTPUT VOLTAGE 3	PRODUCTS CODE
5 V	12-30 VDC	12-30 VDC	12-30 VDC	DEE3-0524
24 V	12-30 VDC	12-30 VDC	12-30 VDC	DEE3-2424
5 V	12-30 VDC	5 VDC	5 VDC	DEE3-0505
24 V	12-30 VDC	5 VDC	5 VDC	DEE3-2405
5 V	12-30 VDC	NA	NA	DEE1-0524
24 V	12-30 VDC	NA	NA	DEE1-2424
5 V	5 V	NA	NA	DEE1-0505
24 V	5 V	NA	NA	DEE1-2405
5 V	5 V	5 V	5 V	DEE3-050505
24 V	5 V	5 V	5 V	DEE3-240505