

## Characteristics at 22 °C

			<b>D</b>	<b>F</b>
1	Number of pulses per rev.		12	16
2	Supply voltage	Vcc	5	3.5 ...15
3	Supply current	typical at 5 V	4	6
4	Rise time	t4	0.125	5
5	Fall time	t5	0.05	0.2
6	Output signal <sup>2)</sup>		Two channels / square wave in quadrature	
7	Electrical phase shift between U1 and U2	t3/t1 x 360		90 ± 40
8	Signal ratio <sup>3)</sup>	t2/t1		50 ± 25
9	Max. count frequency		10	15
10	Operating temperature range			-20 ... +85
11	Inertia	10 <sup>-7</sup> x kgm <sup>2</sup>		0.1
12	Measuring conditions	Temperature		22
		Supply voltage		5
		Load resistance		1
		Load capacitance		25

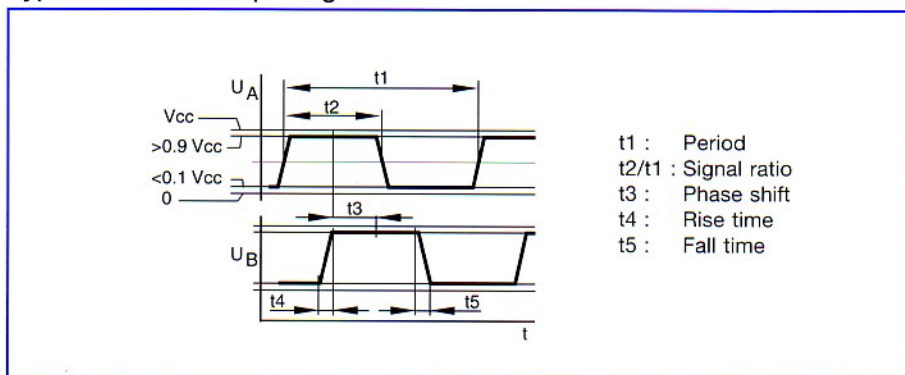
## Encoder F available on motor types

	<b>16N</b>	<b>17N</b>	<b>22S</b>	<b>22N</b>	<b>22V</b>	
13	L1 = length (mm)	30	28.9	28	34	36.3
14	L2 = length (mm)	3.6	3.6	3.1	3.1	3.1
15	D = motor diameter (mm)	16	17	22	22	22

## Encoder D available on motor

	<b>13N</b>	
16	L = length (mm)	40.4
17	D = motor diameter (mm)	13

## Typical encoder output signal



- 1) Connector Dupont type Quikie II or equivalent
- 2) Internal pull-up resistor : 10 kohm (available on the F Type encoder only)
- 3) Over the entire frequency and temperature range