

Adapter module for the connection of 2 encoders to speed monitor and control

Passive T-distributor



(figure similar)



The adapters are designed for attachment between frequency inverter and feedback cable. All pins are wired 1:1.

The connection for speed monitoring is done via RJ45 connectors.

Article no.	BWU2977	BWU3345
Connection		
Encoder and control	6 x fourfold COMBICON connector	
Speed monitor	2 x RJ45 connector	
Input		
Number	2 x encoder	
Input type	HTL, SinCos, TTL, SSI, BiSS	
Power Supply for encoders	internally bridged	separate for each encoder
Environment		
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 60529	
Operating altitude	max. 2000 m	
Ambient temperature	0 °C ... +55 °C	
Storage temperature	-25 °C ... +85 °C	
Housing	plastic, for DIN rail mounting	
Protection category	IP20	
Dimensions (W / H / D) in mm	22,5 / 99,6 / 114	

Wiring rules

Push-in terminals	
General	
Nominal cross section	2,5 mm ²
Conductor cross section	
Conductor cross section solid	0,2 ... 2,5 mm ²
Conductor cross section flexible	0,2 ... 2,5 mm ²
Conductor cross section flexible, with ferrule	without plastic sleeve: 0,2 ... 2,5 mm ² with plastic sleeve: 0,25 ... 2,5 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules	without plastic sleeve: 0,5 ... 1,5 mm ²
AWG	24 ... 14
Stripped insulation length	10 mm

Signal name (encoder)	Description
Ub	power supply, encoder, positive pole
GND	power supply, encoder, negative pole
CLK, CLK	clock connection (absolute encoder)
DATA, DATA	data connection (absolute encoder)
sin ₁ , sin ₂ ; cos ₁ , cos ₂ ; A, A ₁ ; B, B ₁	signal connection (incremental encoder)

Connections:					
BWU2977	Name	Description	BWU3345	Name	Description
	Sh ₁ , Sh ₂ (Shield)	shield		Sh ₁ , Sh ₂ (Shield)	shield
	0 V ₁ , 0 V ₂	power supply for encoders (internally bridged)		Ub _{A/B} , 0 V _{A/B}	power supply encoder A/B
	Ub ₁ , Ub ₂			Ub _{C/D} , 0 V _{C/D}	power supply encoder C/D
	Set ₁ , Set ₂	set signal (internally bridged)		Set ₁ , Set ₂	set signal (internally bridged)
	A ₁ , A ₂	encoder signal A (internally bridged)		A ₁ , A ₂	encoder signal A (internally bridged)
	\bar{A}_1 , \bar{A}_2	encoder inverted signal A (internally bridged)		\bar{A}_1 , \bar{A}_2	encoder inverted signal A (internally bridged)
	B ₁ , B ₂	encoder signal B (internally bridged)		B ₁ , B ₂	encoder signal B (internally bridged)
	\bar{B}_1 , \bar{B}_2	encoder inverted signal B (internally bridged)		\bar{B}_1 , \bar{B}_2	encoder inverted signal B (internally bridged)
	C ₁ , C ₂	encoder signal C (internally bridged)		C ₁ , C ₂	encoder signal C (internally bridged)
	\bar{C}_1 , \bar{C}_2	encoder inverted signal C (internally bridged)		\bar{C}_1 , \bar{C}_2	encoder inverted signal C (internally bridged)
	D ₁ , D ₂	encoder signal D (internally bridged)		D ₁ , D ₂	encoder signal D (internally bridged)
	\bar{D}_1 , \bar{D}_2	encoder inverted signal D (internally bridged)		\bar{D}_1 , \bar{D}_2	encoder inverted signal D (internally bridged)
	Out A/B	speed monitor signal A + B		Out A/B	speed monitor signal A + B
	Out C/D	speed monitor signal C + D		Out C/D	speed monitor signal C + D

RJ45 socket			
BWU2977		BWU3345	
Out A/B	Out C/D	Out A/B	Out C/D
1 = Ub	1 = Ub	1 = Ub _{A/B}	1 = Ub _{C/D}
2 = 0V	2 = 0V	2 = 0V _{A/B}	2 = 0V _{C/D}
3 = B (SW = 1)	3 = D (SW = 1)	3 = B (SW = 1)	3 = D (SW = 1)
4 = A	4 = C	4 = A	4 = C
5 = \bar{A}	5 = \bar{C}	5 = \bar{A}	5 = \bar{C}
6 = \bar{B} (SW = 1)	6 = \bar{D} (SW = 1)	6 = \bar{B} (SW = 1)	6 = \bar{D} (SW = 1)
7 = B (SW = 0)	7 = D (SW = 0)	7 = B (SW = 0)	7 = D (SW = 0)
8 = \bar{B} (SW = 0)	8 = \bar{D} (SW = 0)	8 = \bar{B} (SW = 0)	8 = \bar{D} (SW = 0)

switch (SW)		
BWU2977, BWU3345		
SW=1		absolute value
SW=0		incremental value

Connection assignment for absolute encoders for example SSI:

Pin	SSI	BWU2977		BWU3345		switch position (SW)
		Out A/B	Out C/D	Out A/B	Out C/D	
1	Ub _{in}	Ub	Ub	Ub _{A/B}	Ub _{C/D}	SW=1 (absolute value)
2	GND _{in}	0V	0V	0V _{A/B}	0V _{C/D}	
3	CLK	B	D	B	D	
4	DATA	A	C	A	C	
5	$\overline{\text{DATA}}$	$\overline{\text{A}}$	$\overline{\text{C}}$	$\overline{\text{A}}$	$\overline{\text{C}}$	
6	$\overline{\text{CLK}}$	$\overline{\text{B}}$	$\overline{\text{D}}$	$\overline{\text{B}}$	$\overline{\text{D}}$	
7	-	-	-	-	-	
8	-	-	-	-	-	

Connection assignment for incremental encoders for example sin/cos or TTL:

Pin	sin/cos	TTL	BWU2977		BWU3345		switch position (SW)
			Out A/B	Out C/D	Out A/B	Out C/D	
1	Ub _{in}	Ub _{in}	Ub	Ub	Ub _{A/B}	Ub _{C/D}	SW=0 (incremental value)
2	GND _{in}	GND _{in}	0V	0V	0V _{A/B}	0V _{C/D}	
3	-	-	-	-	-	-	
4	sin	B	B	D	B	D	
5	$\overline{\text{sin}}$	$\overline{\text{B}}$	$\overline{\text{B}}$	$\overline{\text{D}}$	$\overline{\text{B}}$	$\overline{\text{D}}$	
6	-	-	-	-	-	-	
7	cos	A	A	C	A	C	
8	$\overline{\text{cos}}$	$\overline{\text{A}}$	$\overline{\text{A}}$	$\overline{\text{C}}$	$\overline{\text{A}}$	$\overline{\text{C}}$	