Variable speed drives
Altivar 61
Option: Encoder interface cards

Presentation

532727

VW3 A3 401

Encoder interface cards are used for application safety, irrespective of the control type:
- b Overspeed detection
- b Load slipping detection

Three types of card are available depending on the encoder technology:
- b RS 422 compatible differential outputs
- b Open collector outputs (NPN)
- b Push-pull outputs

The card is inserted into a dedicated slot.

Characteristics

Encoder interface cards with RS 422 compatible differential outputs

Type of card		**VW3 A3 401**	
Power supply (supplied by the card)	Voltage	5 V c (min. 5 V, max. 5.5 V)	
	Maximum current	200 mA	
		Short-circuit and overload protection	
Maximum cable length		50 m	
Maximum operating frequency		300 kHz	
Input signals		A, $\overline{A}$, B, $\overline{B}$	
	Impedance	440 Ω	
Number of pulses/encoder revolution		5000 maximum The maximum high-speed frequency should not exceed 300 kHz.	
Encoder consumption		**100 mA at 4.5 V**	**200 mA at 4.5 V**
Minimum cross-section recommended for the conductors *(1)*	For a maximum cable length of 25 m	0.2 mm^2 (AWG 24)	0.5 mm^2 (AWG 20)
	For a maximum cable length of 50 m	0.5 mm^2 (AWG 20)	0.75 mm^2 (AWG 18)
Type of encoder		**XCC 1**ppppppp**X, R, RN** *(2)*	**XCC 1**ppppppp**X** *(2)*

(1) Shielded cable containing 3 twisted pairs at intervals of between 20 and 50 mm. Connect the shielding to earth at both ends. Minimum recommended conductor cross-section for a minimum encoder voltage in order to limit line voltage drops.

(2) To obtain the complete encoder reference, please refer to the "Global Detection - Electronic and Electromechanical Sensors" catalogue or visit our website "www.schneider-electric.com".

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Characteristics (continued)

Encoder interface card with open collector outputs

Type of card		VW3 A3 403		VW3 A3 404	
Power supply (supplied by the card)	Voltage	12 V c (min. 12 V, max. 13 V)		15 V c (min. 15 V, max. 16 V)	
	Maximum current	175 mA			
		Short-circuit and overload protection			
Maximum cable length		500 m			
Maximum operating frequency		300 kHz			
Input signals		A, $\overline{A}$, B, $\overline{B}$ / AB / A			
	Impedance	1 kΩ			
Number of pulses/encoder revolution		5000 maximum The maximum high-speed frequency should not exceed 300 kHz			
Encoder consumption		**100 mA at 10 V**	**175 mA at 10 V**	**100 mA at 10 V**	**175 mA at 10 V**
Minimum cross-section recommended for the conductors *(1)*	For a maximum cable length of 100 m	0.2 mm² (AWG 24)	0.5 mm² (AWG 20)	0.2 mm² (AWG 24)	
	For a maximum cable length of 200 m	0.5 mm² (AWG 20)	0.75 mm² (AWG 18)	0.2 mm² (AWG 24)	
	For a maximum cable length of 500 m	1 mm² (AWG 17)	1.5 mm² (AWG 15)	0.5 mm² (AWG 20)	

Encoder interface card with push-pull outputs

Type of card		VW3 A3 405	VW3 A3 406	VW3 A3 407
Power supply (supplied by the card)	Voltage	12 V c (min. 12 V, max. 13 V)	15 V c (min. 15 V, max. 16 V)	24 V c (min. 20 V, max. 30 V)
	Maximum current	175 mA		100 mA
		Short-circuit and overload protection		
Maximum cable length		500 m		
Maximum operating frequency		300 kHz		
Input signals		A, $\overline{A}$, B, $\overline{B}$ / AB / A		
	Impedance	1 kΩ		1.6 kΩ
	State 0	If < 1.5 V		
	State 1	If > 7.7 V and < 13 V	If > 7.7 V and < 16 V	If > 11.5 V and < 25 V
Number of pulses/encoder revolution		5000 maximum The maximum high-speed frequency should not exceed 300 kHz		

Encoder consumption		100 mA at 10 V	175 mA at 10 V	100 mA at 10 V	175 mA at 10 V	100 mA at 14 V
Minimum cross-section recommended for the conductors *(1)*	For a maximum cable length of 100 m	0.2 mm² (AWG 24)	0.5 mm² (AWG 20)	0.2 mm² (AWG 24)		
	For a maximum cable length of 200 m	0.5 mm² (AWG 20)	0.75 mm² (AWG 18)	0.2 mm² (AWG 24)		
	For a maximum cable length of 500 m	1 mm² (AWG 17)	1.5 mm² (AWG 15)	0.5 mm² (AWG 20)		0.2 mm² (AWG 24)
Type of encoder		**XCC 1**ppppppp**Y, K, KN** *(2)*				

References

Encoder interface cards *(3)*

Description	Voltage V	Reference	Weight kg
Encoder interface cards with RS 422 compatible differential outputs	5	**VW3 A3 401**	0.200
Encoder interface cards with open collector outputs	12	**VW3 A3 403**	0.200
	15	**VW3 A3 404**	0.200
Encoder interface cards with push-pull outputs	12	**VW3 A3 405**	0.200
	15	**VW3 A3 406**	0.200
	24	**VW3 A3 407**	0.200

(1) Shielded cable containing 3 twisted pairs at intervals of between 20 and 50 mm. Connect the shielding to earth at both ends. Minimum recommended conductor cross-section for a minimum encoder voltage in order to limit line voltage drops.
(2) To obtain the complete encoder reference, please refer to the "Global Detection - Electronic and Electromechanical Sensors" catalogue or visit our website "www.schneider-electric.com".
(3) The Altivar 61 drive cannot support more than one encoder interface card. Consult the summary tables of possible drive, option and accessory combinations on pages 60674/2 to 60674/11.

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