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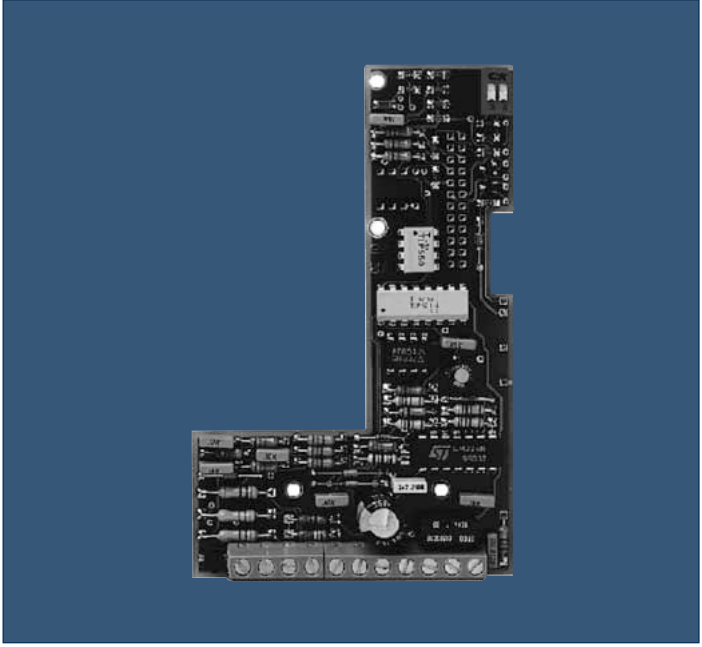
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ALTIVAR® 16

Carte métier
Usage moteur haute vitesse

Dedicated board
High speed motor operation

Anwendungsspezifische Optionkarte
Hochtourige Motoren

Carta aplicación
para motor de alta velocidad

VW3-A16203

Guide d'exploitation
User's manual
Bedienungsanleitung
Guía de explotación

Telemecanique
GROUPE SCHNEIDER

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Carte métier Usage moteur haute vitesse	Page 2
Dedicated board High speed motor operation	Page 14
Anwendungsspezifische Optionkarte Hochtourige Motoren	Seite 26
Carta aplicación Para motor de alta velocidad	Página 38

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Read this document carefully to achieve the optimum performance from the speed controller.

The descriptions and outline diagrams are intended for experienced personnel. Changing the adjustments or configuration of the speed controller will affect its functions and performance. Ensure that any modifications carried out do not expose personnel or the hardware to any risk.

In local control mode, check that the starting and stopping of the machine is not dangerous.

Although every care has been taken in the preparation of this document, Schneider Electric SA cannot guarantee the contents and cannot be held responsible for any errors it may contain or for any damage which may result from its use or application.

The products and options described in this document may be changed or modified at any time, either from a technical point of view or in the way they are operated. Their description can in no way be considered contractual.

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Contents

"Altivar 16 " 16

Installation 17

Connection 18

Connection diagram 19

Set-up :

I/O automatic configuration 20

Additional functions with VW3-A16101 and 02 21

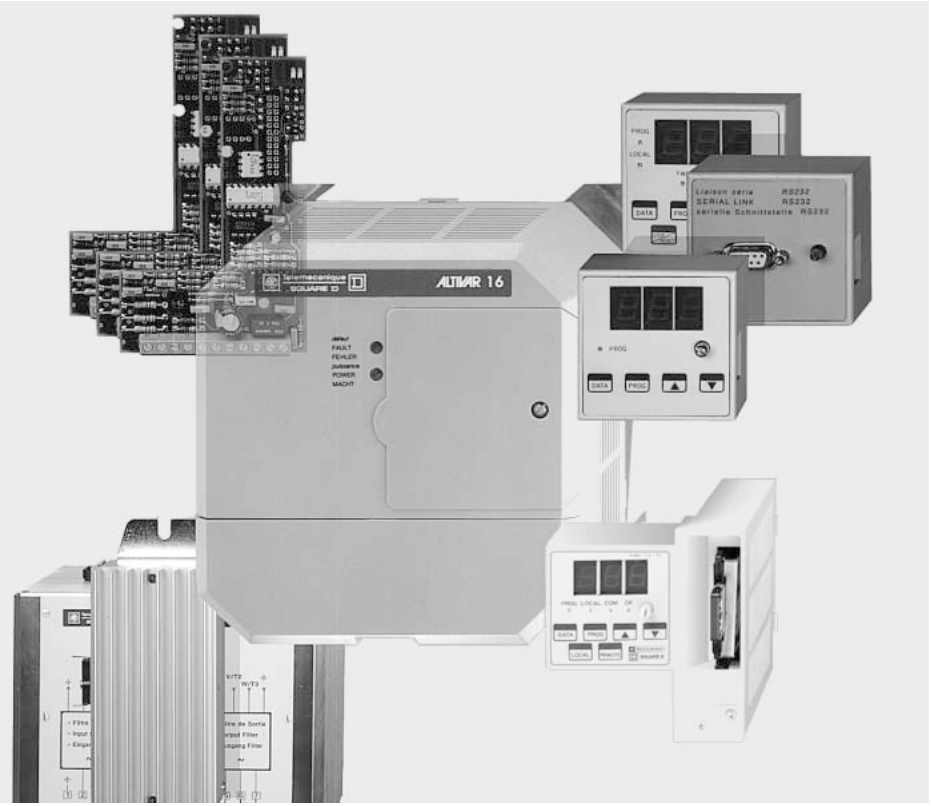
I/O reconfiguration using a PC 22

Additional functions available with a PC 23

Maintenance assistance 24

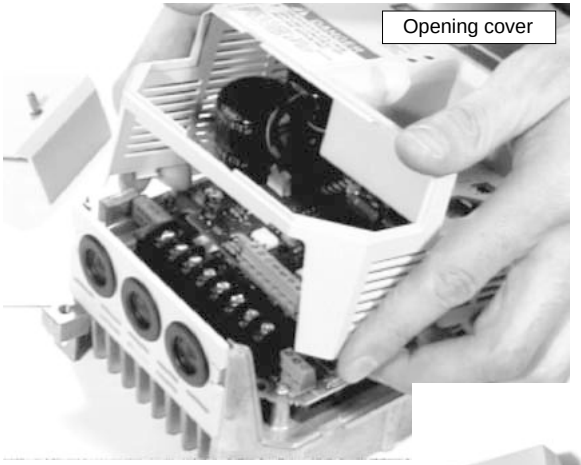
Documentation 25

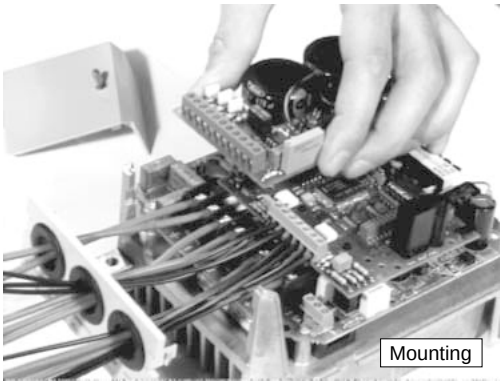
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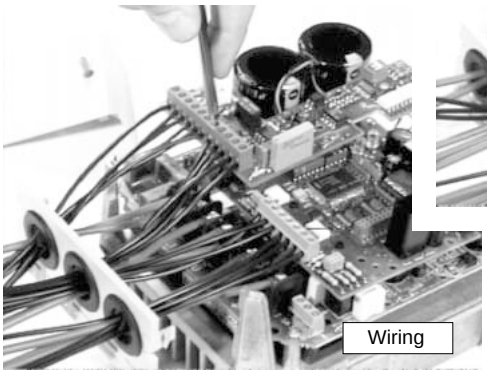


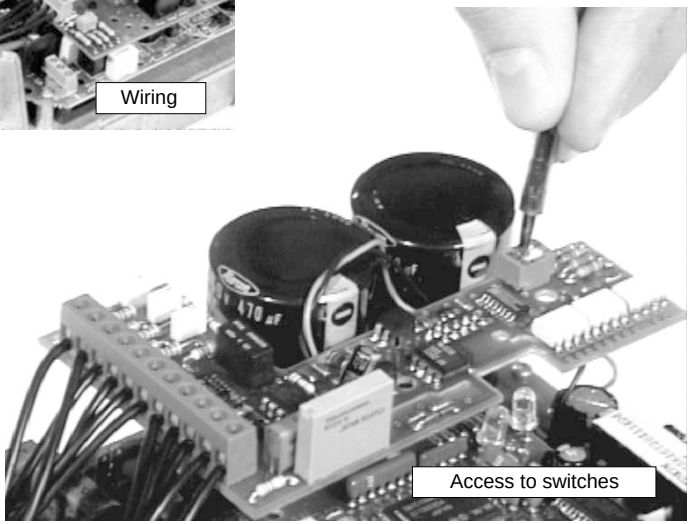
A wide range of options and accessories is available for the Altivar 16, to meet the needs of various applications.

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Opening cover

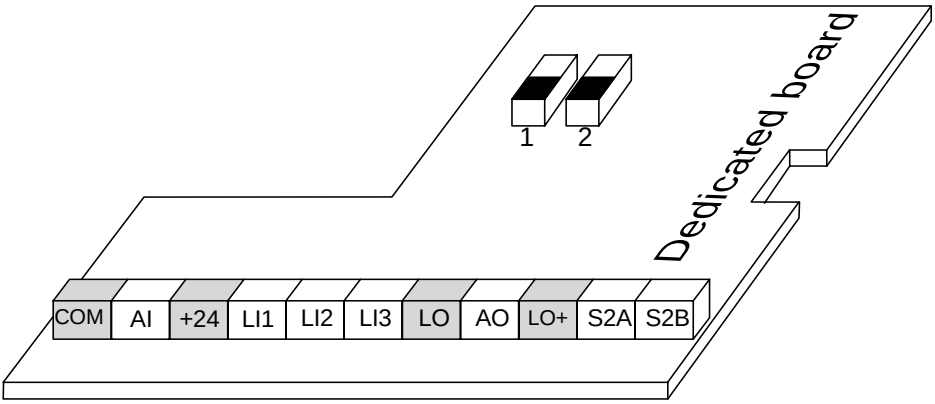

Mounting


Wiring


Access to switches

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Connection



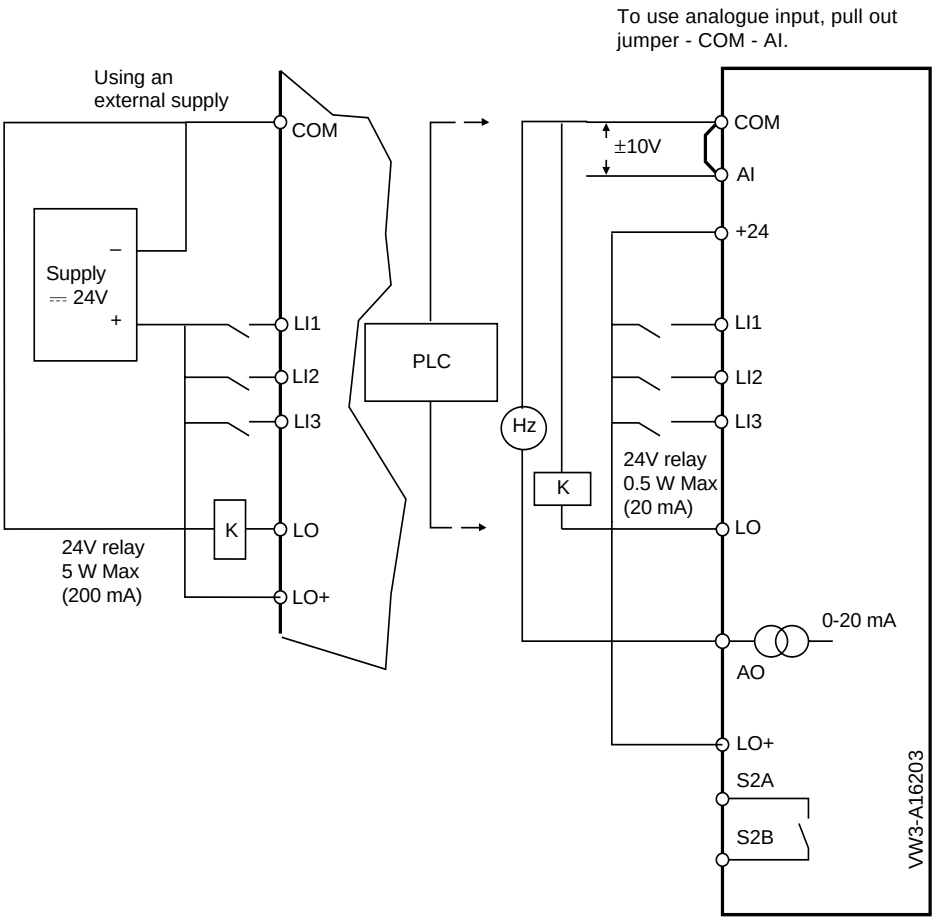
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Terminal label	Function	Characteristics	Terminal capacity mm^2
COM	Common for logic and analogue I/O	0 Volt	1.5
AI	Analogue input	Resolution 10 bits ± 10 V Z = 40 kΩ	1.5
+24		⎓ 24 V	1.5
LI1	Logic input	Rated : 24 V - 16.5 mA state 1 : U > 11 V - I > 6 mA state 0 : U ≤ 5 V - I ≤ 2.5 mA Z = 1.5 kΩ	1.5
LI2	Logic input		
LI3	Logic input		
LO	Logic output	PLC compatible open collector Max : ⎓ 24V - 200 mA. Max flow 20 mA if connected to +24V of internal source	1.5
AO	Analogue output	0 - 20 mA (500 Ω - 10 V) Resolution 8 bits	1.5
LO+	Supply for logic output	Internal 24 V - 20 mA External 24 V - 200 mA	1.5
S2A	N/O volt free contact	min : 10 mA - ⎓ 1 V max : 1 A - ∿ 250 V and ⎓ 30 V of inductive load	1.5
S2B			

The I/O are electrically isolated.

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Connection diagram



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To avoid interference in the unit it is recommended that you :

- separate the control circuits and the power circuits.

- use a twisted pair cable for the control circuits, with a pitch of 25 to 50 mm, or a screened twisted pair cable.

Precautions

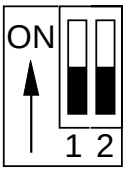
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High speed motor operation

I/O automatic configuration

(switch n°2 in lower position)

- automatic assignment of I/O on the board, by basic speed controller, with or without display option.
- I/O cannot be reconfigured (see page 22).
- immediate restart after changing basic speed controller.



Switch n°1 off

Dedicated board switches

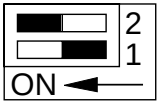
S2A.S2B	Frequency reference reached
AO	Motor frequency
LO	Overload 1.1 I t H reached
LI3	Freewheel stop
LI2	Switching between 2 ramps
LI1	JOG
AI	Ref. 2 input summed with AIV

Terminal label

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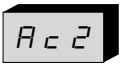
High speed motor operation

Additional functions with display and adjustment options



Required switch position for the display and adjustment options VW3-A16101 and VW3-A16102 used for modifying the following functions :

Adjustable function :



Acceleration 2 : 2nd acceleration time of 0.1 to 600 s, confirmed by the signal at LI2.
Factory setting : 12 s.



Deceleration 2 : 2nd deceleration time of 0.1 to 600 s, confirmed by the signal at LI2.
Factory setting : 12 s.



d.c. amplitude : injected when frequency drops to < 0.1 Hz from 0.5 to 1.5 [ItH].
Factory setting : 0.7 [ItH].



d.c. injection time : when frequency drops to < 0.1 Hz from 0 to 5 s, then permanent [dcb].
Factory setting : 0.5 s.

Configurable function :



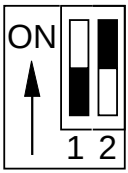
Catching a spinning load : restart the speed controller following a break in the supply. If the speed reference signal and confirmation of the start command have been maintained, the motor accelerates up to its initial speed without resetting the acceleration ramp.
Factory setting NO / [YES].

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High speed motor operation

I/O reconfiguration using a PC



Switch 1 : off

Switch 2 :
Position required for reconfiguring the I/O and their function (component panel).

S2A - S2B	Frequency reference reached	
AO	Motor frequency	Motor current
LO	Overload 1.1 ItH reached	
LI3	4th speed	Freewheel stop
LI2	3rd speed	Switching between 2 ramps
LI1	JOG	
AI	Input summed with AIV	

Terminal label

Factory configuration

- When starting, after changing the basic speed controller or when first reconfiguring the dedicated board I/O, if the red fault LED is flashing or the code OPt appears on the display option, the dedicated board I/O should be reassigned.

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High speed motor operation

I/O reconfiguration using a PC

Configurable functions

Automatic d.c. injection	:	no / f ≤ 0,1 Hz / f < LSP
Controlled stop on supply break	:	yes / [no]

Adjustable functions

3rd speed	:	LSP to HSP
4th speed	:	LSP to HSP
JOG speed	:	0.1 to 10 Hz (5 Hz)

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Red LED flashing on basic unit, or code OPt indicates that I/O should be reassigned or that switch n°2 on the dedicated board should be switched to off (lower position).

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- Product designation	Product reference	Document reference	Document number
- Speed controller	ATV-16	VD0C01Q301	N° 52533
- Adjustment and display	VW3-A16101	VD0C01Q302	N° 52534
- Local control adjustment and display	VW3-A16102	VD0C01Q302	N° 52534
- Remote display option	VW3-A16103	VD0C01N901	N° 99471
- PC connection	VW3-A16104	VD0C01N902	N° 99488
- Braking module	VW3-A16601	VD0C01N906	N° 99474
- Braking resistance	VW3-A16701-04	VD0C01N907	N° 99475
- Attenuating filters	VW3-A16401-07	VD0C01N904	N° 99472
- Inductances	VW3-A16501-04	VD0C01N905	N° 99473
- IP 54	VW3-A16801-02	VD0C01N908	N° 99476

- SERIAL LINK CONNECTION OPTIONS

– Interface for PCMCIA communication card	VW3-A16303	VD0C01B320	N° 62821
– PCMCIA card for UNITELWAY, MODBUS, JBUS, SY/MAX PNIM protocol	VW3-A66301		
– User's manual : PCMCIA communication card protocols UNITELWAY, MODBUS, JBUS		VD0C01B311	N° 54749
– FIPIO protocol kit which includes :	TSX FPV16 V6M		
• two diskettes for integration under XTEL-CONF,	TXT L FPV16V5		
• an installation manual for the ATV16 on FIPIO		TSX DM FPV16V6M	N° 56698
• a PCMCIA communication card	TSX FPP 10		
• a junction box	TSX FP ACC4		

- DEDICATED BOARDS

- General usage/material handling	VW3-A16201	VD0C01Q303	N° 52553
- Variable torque	VW3-A16202	VD0C01Q304	N° 52554
- High speed motors	VW3-A16203	VD0C01Q305	N° 52555

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