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I842 GB 03 26

# (GB) QUICK GUIDE FOR THE CONFIGURATION OF VARIABLE SPEED DRIVES

# VLG3...

**WARNING!**
- Carefully read the manual before the installation or use.
- This equipment is to be installed by qualified personnel, complying to current standards, to avoid damages or safety hazards.
- Before any maintenance operation on the device, remove all the voltages from measuring and supply inputs and short-circuit the CT input terminals.
- The manufacturer cannot be held responsible for electrical safety in case of improper use of the equipment.
- Products illustrated herein are subject to alteration and changes without prior notice. Technical data and descriptions in the documentation are accurate, to the best of our knowledge, but no liabilities for errors, omissions or contingencies arising there from are accepted.
- A circuit breaker must be included in the electrical installation of the building. It must be installed close by the equipment and within easy reach of the operator. It must be marked as the disconnecting device of the equipment: IEC/EN/BS 61010-1 § 6.11.3.1.
- Clean the device with a soft dry cloth; do not use abrasives, liquid detergents or solvents.

**ATTENTION !**
- Lire attentivement le manuel avant toute utilisation et installation.
- Ces appareils doivent être installés par un personnel qualifié, conformément aux normes en vigueur en matière d'installations, afin d'éviter de causer des dommages à des personnes ou choses.
- Avant toute intervention sur l'instrument, mettre les entrées de mesure et d'alimentation hors tension et court-circuiter les transformateurs de courant.
- Le constructeur n'assume aucune responsabilité quant à la sécurité électrique en cas d'utilisation impropre du dispositif.
- Les produits décrits dans ce document sont susceptibles d'évoluer ou de subir des modifications à n'importe quel moment. Les descriptions et caractéristiques techniques du catalogue ne peuvent donc avoir aucune valeur contractuelle.
- Un interrupteur ou disjoncteur doit être inclus dans l'installation électrique du bâtiment. Celui-ci doit se trouver tout près de l'appareil et l'opérateur doit pouvoir y accéder facilement. Il doit être marqué comme le dispositif d'interruption de l'appareil : IEC/EN/BS 61010-1 § 6.11.3.1.
- Nettoyer l'appareil avec un chiffon doux, ne pas utiliser de produits abrasifs, détergents liquides ou solvants.

**ACHTUNG!**
- Dieses Handbuch vor Gebrauch und Installation aufmerksam lesen.
- Zur Vermeidung von Personen- und Sachschäden dürfen diese Geräte nur von qualifiziertem Fachpersonal und unter Befolgung der einschlägigen Vorschriften installiert werden.
- Vor jedem Eingriff am Instrument die Spannungszufuhr zu den Messeingängen trennen und die Stromwandler kurzschließen.
- Bei zweckwidrigem Gebrauch der Vorrichtung übernimmt der Hersteller keine Haftung für die elektrische Sicherheit.
- Die in dieser Broschüre beschriebenen Produkte können jederzeit weiterentwickelt und geändert werden. Die im Katalog enthaltenen Beschreibungen und Daten sind daher unverbindlich und ohne Gewähr.
- In die elektrische Anlage des Gebäudes ist ein Ausschalter oder Trennschalter einzubauen. Dieser muss sich in unmittelbarer Nähe des Geräts befinden und vom Bediener leicht zugänglich sein. Er muss als Trennvorrichtung für das Gerät gekennzeichnet sein: IEC/EN/BS 61010-1 § 6.11.3.1.
- Das Gerät mit einem weichen Tuch reinigen, keine Scheuermittel, Flüssigreiniger oder Lösungsmittel verwenden.

**ADVERTENCIA**
- Leer atentamente el manual antes de instalar y utilizar el regulador.
- Este dispositivo debe ser instalado por personal cualificado conforme a la normativa de instalación vigente a fin de evitar daños personales o materiales.
- Antes de realizar cualquier operación en el dispositivo, desconectar la tensión de las entradas de alimentación y medida, y cortocircuitar los transformadores de corriente.
- El fabricante no se responsabilizará de la seguridad eléctrica en caso de que el dispositivo no se utilice de forma adecuada.
- Los productos descritos en este documento se pueden actualizar o modificar en cualquier momento. Por consiguiente, las descripciones y los datos técnicos aquí contenidos no tienen valor contractual.
- La instalación eléctrica del edificio debe disponer de un interruptor o disyuntor. Este debe encontrarse cerca del dispositivo, en un lugar al que el usuario pueda acceder con facilidad. Además, debe llevar el mismo marcado que el interruptor del dispositivo (IEC/EN/BS 61010-1 § 6.11.3.1).
- Limpiar el dispositivo con un trapo suave; no utilizar productos abrasivos, detergentes líquidos ni disolventes.

**UPOZORNĚNÍ**
- Návod se pozorně pročtěte, než začnete regulátor instalovat a používat.
- Tato zařízení smí instalovat kvalifikovaní pracovníci v souladu s platnými předpisy a normami pro předcházení úrazů osob či poškození věcí.
- Před jakýmkoli zásahem do přístroje odpojte měřicí a napájecí vstupy od napětí a zkratujte transformátory proudu.
- Výrobce nenese odpovědnost za elektrickou bezpečnost v případě nevhodného používání regulátoru.
- Výrobky popsané v tomto dokumentu mohou kdykoli projít úpravami či dalším vývojem. Popisy a údaje uvedené v katalogu nemají proto žádnou smluvní hodnotu.
- Spínač či odpojovač je nutno zabudovat do elektrického rozvodu v budově. Musejí být nainstalované v těsné blízkosti přístroje a snadno dostupné pracovníku obsluhy. Je nutno ho označit jako vypínací zařízení přístroje: IEC/EN/BS 61010-1 § 6.11.3.1.
- Přístroj čistěte měkkou utěrkou, nepoužívejte abrazivní produkty, tekutá čistidla či rozpouštědla.

**AVERTIZARE!**
- Citiţi cu atenţie manualul înainte de instalare sau utilizare.
- Acest echipament va fi instalat de personal calificat, în conformitate cu standardele actuale, pentru a evita deteriorări sau pericolele.
- Înainte de efectuarea oricărei operaţiuni de întreţinere asupra dispozitivului, îndepărtaţi toate tensiunile de la intrările de măsurare şi de alimentare şi scurtcircuitaţi bornele de intrare CT.
- Producătorul nu poate fi considerat responsabil pentru siguranţa electrică în caz de utilizare incorectă a echipamentului.
- Produsele ilustrate în prezentul sunt supuse modificărilor şi schimbărilor fără notificare anterioară. Datele tehnice şi descrierile din documentaţie sunt precise, în măsura cunoştinţelor noastre, dar nu se acceptă nicio răspundere pentru erorile, omiterile sau evenimentele nepreväzute care apar ca urmare a acestora.
- Trebuie inclus un disjunctor în instalaţia electrică a clădirii. Acesta trebuie instalat aproape de echipament şi într-o zonă uşor accesibilă operatorului. Acesta trebuie marcat ca fiind dispozitivul de deconectare al echipamentului: IEC/EN/BS 61010-1 § 6.11.3.1.
- Curăţaţi instrumentul cu un material textil moale şi uscat; nu utilizaţi substanţe abrazive, detergenţi lichizi sau solvenţi.

**ATTENZIONE!**
- Leggere attentamente il manuale prima dell'utilizzo e l'installazione.
- Questi apparecchi devono essere installati da personale qualificato, nel rispetto delle vigenti normative impiantistiche, allo scopo di evitare danni a persone o cose.
- Prima di qualsiasi intervento sullo strumento, togliere tensione dagli ingressi di misura e di alimentazione e cortocircuitare i trasformatori di corrente.
- Il costruttore non si assume responsabilità in merito alla sicurezza elettrica in caso di utilizzo improprio del dispositivo.
- I prodotti descritti in questo documento sono suscettibili in qualsiasi momento di evoluzioni o di modifiche. Le descrizioni ed i dati a catalogo non possono pertanto avere alcun valore contrattuale.
- Un interruttore o disgiuntore va compreso nell'impianto elettrico dell'edificio. Esso deve trovarsi in stretta vicinanza dell'apparecchio ed essere facilmente raggiungibile da parte dell'operatore. Deve essere marchiato come il dispositivo di interruzione dell'apparecchio: IEC/EN/BS 61010-1 § 6.11.3.1.
- Pulire l'apparecchio con panno morbido, non usare prodotti abrasivi, detergenti liquidi o solventi.

**UWAGA!**
- Przed użyciem i instalacją urządzenia należy uważnie przeczytać niniejszą instrukcję.
- W celu uniknięcia obrażeń osób lub uszkodzenia mienia tego typu urządzenia muszą być instalowane przez wykwalifikowany personel, zgodnie z obowiązującymi przepisami.
- Przed rozpoczęciem jakichkolwiek prac na urządzeniu należy odłączyć napięcie od wejść pomiarowych i zasilania oraz zewrzeć zaciski przekładnika prądowego.
- Producent nie przyjmuje na siebie odpowiedzialności za bezpieczeństwo elektryczne w przypadku niewłaściwego użytkowania urządzenia.
- Produkty opisane w niniejszym dokumencie mogą być w każdej chwili udoskonalone lub zmodyfikowane. Opisy oraz dane katalogowe nie mogą mieć w związku z tym żadnej wartości umownej.
- W instalacji elektrycznej budynku należy uwzględnić przełącznik lub wyłącznik automatyczny. Powinien on znajdować się w bliskim sąsiedztwie urządzenia i być łatwo osiągalny przez operatora. Musi być oznaczony jako urządzenie służące do wyłączania urządzenia: IEC/EN/BS 61010-1 § 6.11.3.1.
- Urządzenie należy czyścić miękką szmatką, nie stosować środkow ściernych, płynnych detergentow lub rozpuszczalnikow.

**警告！**
- 安装或使用前，请仔细阅读本手册。
- 本设备只能由合格人员根据现行标准进行安装，以避免造成损坏或安全危害。
- 对设备进行任何维护操作前，请移除测量输入端和电源输入端的所有电压，并短接 CT 输入端。
- 制造商不负责因设备使用不当导致的电气安全问题。
- 此处说明的产品可能会有变更，恕不提前通知。 我们竭力确保本文档中技术数据和说明的准确性，但对于错误、遗漏或由此产生的意外事件概不负责。
- 建筑电气系统中必须装有断路器。断路器必须安装在靠近设备且方便操作员触及的地方。必须将断路器标记为设备的断开装置：IEC/EN/BS 61010-1 § 6.11.3.1
- 请使用柔软的干布清洁设备；切勿使用研磨剂、洗涤液或溶剂。

**ПРЕДУПРЕЖДЕНИЕ!**
- Прежде чем приступать к монтажу или эксплуатации устройства, внимательно ознакомьтесь с одержанием настоящего руководства.
- Во избежание травм или материального ущерба монтаж должен существляться только квалифицированным персоналом в соответствии с действующими нормативами.
- Перед проведением любых работ по техническому обслуживанию устройства необходимо обесточить все измерительные и питающие входные контакты, а также замкнуть накоротко входные контакты трансформатора тока (TT).
- Производитель не несет ответственность за обеспечение электробезопасности в случае ненадлежащего использования устройства.
- Изделия, описанные в настоящем документе, в любой момент могут подвергнуться изменениям или усовершенствованиям. Поэтому каталожные данные и описания не могут рассматриваться как действительные с точки зрения контрактов
- Электрическая сеть здания должна быть оснащена автоматическим выключателем, который должен быть расположен вблизи оборудования в пределах доступа оператора. Автоматический выключатель должен быть промаркирован как отключающее устройство оборудования: IEC/EN/BS 61010-1 § 6.11.3.1.
- Очистку устройства производить с помощью мягкой сухой ткани, без применения абразивных материалов, жидких моющих средств или растворителей.

**DİKKAT!**
- Montaj ve kullanımdan önce bu el kitabını dikkatlice okuyunuz.
- Bu aparatlar kişilere veya nesnelere zarar verme ihtimaline karşı yürürlükte olan sistem kurma normlarına göre kalifiye personel tarafından monte edilmelidirler
- Aparata (cihaz) herhangi bir müdahalede bulunmadan önce ölçüm girişlerindeki gerilimi kesip akım transformatörlerinede kısa devre yaptırınız.
- Üretici aparatın hatalı kullanımından kaynaklanan elektriksel güvenliğe ait sorumluluk kabul etmez.
- Bu doküманda tarif edilen ürünler her an evrimlere veya değişimlere açıktır. Bu sebeple katalogdaki tarif ve değerler herhangi bir bağlayıcı değeri haiz değildir.
- Binanın elektrik sisteminde bir anahtar veya şalter bulunmalıdır. Bu anahtar veya şalter operatörün kolaylıkla ulaşabileceği yakın bir yerde olmalıdır. Aparatı (cihaz) devreden çıkartma görevi yapan bu anahtar veya şalterin markası: IEC/EN/BS 61010-1 § 6.11.3.1.
- Aparatı (cihaz) sıvı deterjan veya solvent kullanarak yumuşak bir bez ile siliniz aşındırıcı temizlik ürünleri kullanmayınız.

**UPOZORENJE!**
- Prije instalacije ili korištenja uređaja, pažljivo pročitajte upute.
- Ovaj uređaj mora instalirati, u skladu s važećim normama, obučena osoba kako bi se izbjegle štete ili sigurnosne opasnosti.
- Prije bilo kakvog zahvata na uređaju otpojite napajanje s mjernih i napajajućih ulaza i kratko spojite ulazne stezaljke strujnog transformatora.
- Proizvođač ne snosi odgovornost za električnu sigurnost u slučaju nepravilnog korištenja opreme.
- Ovdje prikazan uređaj predmet je stalnog usavršavanja i promjena bez prethodne najave. Tehnički podaci i opisi u ovim uputama su točni, ali ne preuzimamo odgovornost za možebitne nenamjerne greške.
- U električnu instalaciju zgrade mora biti instaliran prekidač. On mora biti instaliran blizu uređaja i na dohvat ruke operatera, te označen kao rastavljač u skladu s normom IEC/EN/BS 61010-1 § 6.11.3.1
- Uređaj čistite s mekom, suhom krpom bez primjene abraziva, tekućina, otapala ili deterdženta.

1. NAVIGATION IN THE MENU
1.1. Operator panel functions


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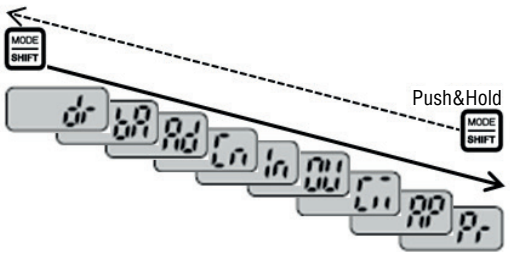
The following table lists the names and functions of the keypad's operation keys and LED.

| Key | Name | Description |
|---|---|---|
| 7-Segment Display | SET Indicator | LED flashes during parameter configuration and when the ESC key operates as the multi-function key. |
| | RUN Indicator | LED turns on (steady) during an operation, and flashes during acceleration or deceleration. |
| | FWD Indicator | LED turns on (steady) during forward operation. |
| | REV Indicator | LED turns on (steady) during reverse operation. |
| RUN | RUN | Used to run the drive |
| STOP/RESET | STOP/RESET | STOP: Stops the drive.<br>RESET: Resets the drive if a fault or failure occurs |
| ▲ ▼ | ▲,▼ | Switch between codes, or to increase or decrease parameter values. |
| MODE/SHIFT | MODE/SHIFT | Moves between groups or moves to the digit on the left when setting the parameter. Press the MODE/SHIFT key once again on the maximum number of digits to move to the minimum number of digits. |
| ENT | ENTER | Switches from the selected state of parameter to the input state.<br>Edits parameter and apply change.<br>Accesses the operation information screen during failure on the failure screen. |
| MIN MAX | Frequency | Used to set the operation frequency. |
| ▲ + ▼<br>MODE/SHIFT + ▼<br>MODE/SHIFT + ▲ | ESC | Operates as ESC key if two keys out of [MODE/SHIFT] key, [▲] key and [▼] key are entered at the same time.<br>– Press ESC in the group navigation mode to go to the initial screen (the frequency display screen).<br>– Press ESC in the mode to change parameter to go to group navigation mode without saving. |

1.2. Navigation in the menu
– Codes can be accessed by pressing [▲] and [▼] keys.
– Items can be accessed by pressing [ENT] key.




– Groups can be accessed with the [MODE/SHIFT] key.
– Group access in the other direction can be accessed by pressing the [MODE/SHIFT] key for more than 1sec.
– Parameters can be accessed with [▲] and [▼] keys.
– Press the [ENT] key to change the setting of the parameter.
– Press the [ENT] x2 to save the settings.

The control menu uses the following groups.

The control menu uses the following groups.

| Group | Display | Description |
|---|---|---|
| Operation | – | Configures basic parameters for drive operation. |
| Drive (Drive) | dr | Configures parameters for basic operations. These include jog operation, motor capacity evaluation, torque boost, and other keypad related parameters. |
| Basic (Basic) | bA | Configures basic operation parameters. These parameters include motor parameters and multi-step frequency parameters. |
| Advanced (Advanced) | Ad | Configures acceleration or deceleration patterns, frequency limits, etc. |
| Control (Control) | Cn | Configures sensorless vector-related features. |
| Input Terminal (Input) | In | Configures input terminal-related features, including digital multi-functional inputs and analog inputs. |
| Output Terminal (Output) | OU | Configures output terminal-related features such as relays and analog outputs. |
| Communication (Communication) | CM | Configures communication features for RS-485 or other communication options. |
| Application (Application) | AP | Configures functions related to PID control. |
| Protection (Protection) | Pr | Configures motor and drive protection features. |
| Secondary Motor (2nd Motor) | M2 | Configures secondary motor related features. The secondary motor (M2) group appears on the keypad only when one of the multi-function input terminals (In.65–In.69) has been set to 26 (Secondary motor). |

2. RESET PARAMETERS TO DEFAULT

To reset the parameters of the variable speed drive to the factory values, follow this procedure:

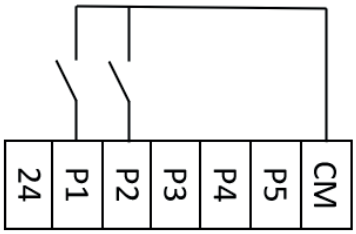
– Press MODE/SHFT until dr.0 is displayed.

– With the up and down arrows , reach parameter dr.93 and set it to value 1.

– Press ENT x2 to save the parameters. Once initialization is complete, dr.93 will be displayed again.

3. COMMAND THE RUN/STOP OF THE MOTOR

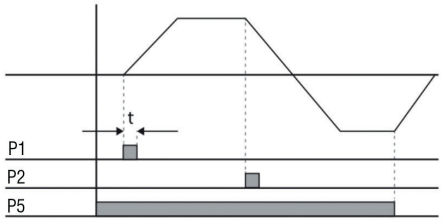
3.1. 2-wires control from the flexible I/O terminal block



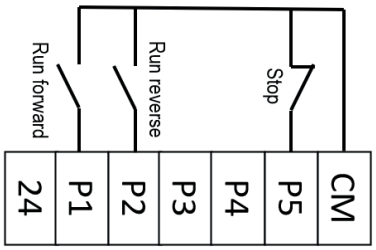

| Parameter | Function | Setting | Description |
|---|---|---|---|
| drv | Command source | 1 | 1=command from terminal block. P1: forward run, P2: reverse run<br>2= command from terminal block. P1: run command, P2: reverse direction command |
| In.65 | Multifunction input P1 | 1 | Forward command |
| In.66 | Multifunction input P2 | 2 | Reverse command |

3.2. 3-wires control from flexible I/O terminal block

| Parameter | Function | Setting | Description |
|---|---|---|---|
| drv | Command source | 1 | Command from terminal block |
| In.65 | Multifunction input P1 | 1 | Forward run |
| In.66 | Multifunction input P2 | 2 | Reverse run |
| In.69 | Multifunction input P5 | 14 | STOP<br>3-wire control |




[3-wire operation]

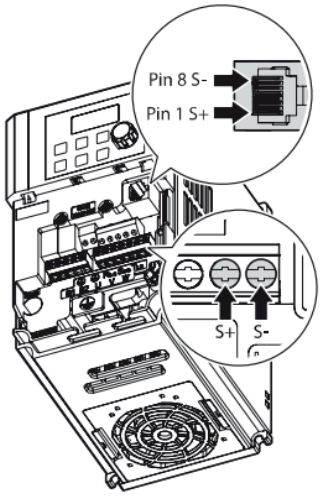


3.3. From keypad


| | |
|---|---|
| RUN | Start |
| STOP / RESET | Stop |

| Parameter | Function | Setting | Description |
|---|---|---|---|
| drv | Command source | 0 | Keypad |

3.4. From RS485 communication port




| Parameter | Function | Setting | Description |
|---|---|---|---|
| drv | Command source | 3 | Run command from bulti-in RS485 (Modbus-RTU) |
| CM.01 | Serial node | 1-250 | Modbus serial node |
| CM.02 | Protocol | 0 | Modbus-RTU |
| CM.03 | Baud rate | 3 | 9600 bps |
| CM.04 | Data format | 0 | 8 data bits, no parity, 1 stop bit |

4. FREQUENCY ADJUSTMENT

4.1. From keypad


| | |
|---|---|
| ▲ | Increase frequency |
| ▼ | Decrease frequency |

| Parameter | Function | Setting | Description |
|---|---|---|---|
| Frq | Frequency setpoint source | 1 | Frequency adjusted from keypad |
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |

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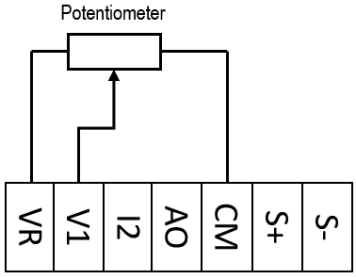
4.2. From integrated front potentiometer

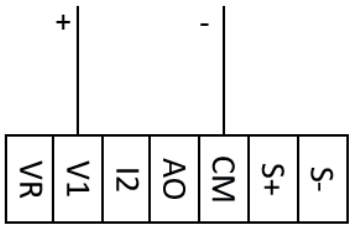

| Parameter | Function | Setting | Description |
|---|---|---|---|
| Frq | Frequency setpoint source | 4 | Frequency adjusted from integrated front potentiometer |
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |
| In.39 | Frequency value with front potentiometer at minimum | 0% | Frequency value % with front potentiometer at minimum |
| In.41 | Frequency value with front potentiometer at maximum | 100% | Frequency value % with front potentiometer at maximum |

4.3. From external potentiometer



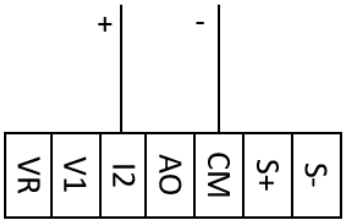

| Parameter | Function | Setting | Description |
|---|---|---|---|
| Frq | Frequency setpoint source | 2 | Frequency adjusted with voltage analog input V1 |
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |
| In.01 | Maximum frequency value | 50Hz | Maximum frequency reachable with potentiometer (with In.11=100%) |
| In.09 | Value of frequency when V1 is at minimum | 0% | Minimum frequency value referred to In.01 (0% of 50Hz = 0Hz) |
| In.11 | Value of frequency when V1 is at maximum | 100% | Maximum frequency value referred to In.01 (100% of 50Hz = 50Hz) |

4.4. From analog input signal type 0-10V

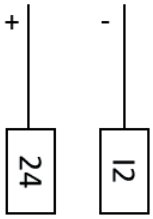



| Parameter | Function | Setting | Description |
|---|---|---|---|
| Frq | Frequency setpoint source | 2 | Frequency adjusted with voltage analog input V1 |
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |
| In.01 | Maximum frequency value | 50Hz | Maximum frequency reachable with analog input (with In.11=100%) |
| In.09 | Value of frequency when V1 is at minimum | 0% | Minimum frequency value referred to In.01 (0% of 50Hz = 0Hz) |
| In.11 | Value of frequency when V1 is at maximum | 100% | Maximum frequency value referred to In.01 (100% of 50Hz = 50Hz) |

4.5. From analog input signal type 4-20mA




Analog signal 4-20mA




2-wire sensor with output 4-20mA,
supplied with 24VDC

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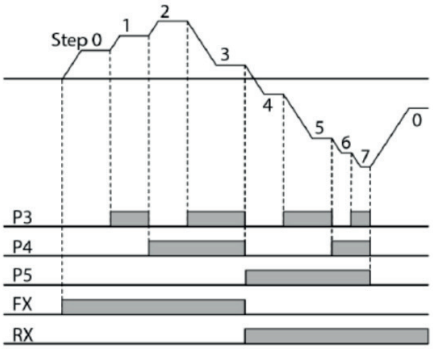
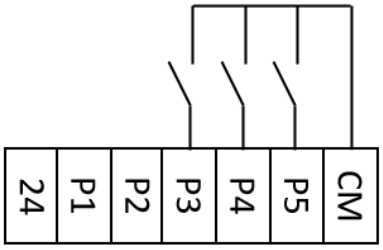
| Parameter | Function | Setting | Description |
|---|---|---|---|
| Frq | Frequency setpoint source | 5 | Frequency adjusted with current analog input I2 |
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |
| In.01 | Maximum frequency value | 50Hz | Maximum frequency reachable with analog input (with In.56=100%) |
| In.53 | Minimum I2 input value | 4mA | Minimum I2 value = 4mA |
| In.54 | Value of frequency when I2 is at minimum | 0% | Frequency value with I2=4mA (0% of 50Hz = 0Hz) |
| In.55 | Maximum I2 input value | 20mA | Maximum I2 value = 20mA |
| In.56 | Value of frequency when I2 is at maximum | 100% | Frequency value with I2=20mA (100% of 50Hz = 50Hz) |

4.6. With preset frequency setpoints




P3 = Preselected frequency selection, first bit
P3 = Preselected frequency selection, second bit
P3 = Preselected frequency selection, third bit

| P5 (third bit) | P4 (second bit) | P3 (first bit) | Preset frequency activated |
|---|---|---|---|
| Open | Open | Open | No preset frequency activated. The frequency is adjusted by the source set in Frq |
| Open | Open | Closed | Preset frequency 1 |
| Open | Closed | Open | Preset frequency 2 |
| Open | Closed | Closed | Preset frequency 3 |
| Closed | Open | Open | Preset frequency 4 |
| Closed | Open | Closed | Preset frequency 5 |
| Closed | Closed | Open | Preset frequency 6 |
| Closed | Closed | Closed | Preset frequency 7 |

| Parameter | Function | Setting | Description |
|---|---|---|---|
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |
| In.67 | Multifunction input P3 | 7 | Preselected frequency selection, first bit |
| In.68 | Multifunction input P4 | 8 | Preselected frequency selection, second bit |
| In.69 | Multifunction input P5 | 9 | Preselected frequency selection, third bit |
| St1 | Preset frequency 1 | ... Hz | Value of preset frequency 1 |
| St2 | Preset frequency 2 | ... Hz | Value of preset frequency 2 |
| St3 | Preset frequency 3 | ... Hz | Value of preset frequency 3 |
| bA.53 | Preset frequency 4 | ... Hz | Value of preset frequency 4 |
| bA.54 | Preset frequency 5 | ... Hz | Value of preset frequency 5 |
| bA.55 | Preset frequency 6 | ... Hz | Value of preset frequency 6 |
| bA.56 | Preset frequency 7 | ... Hz | Value of preset frequency 7 |

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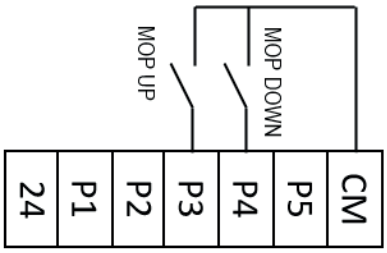
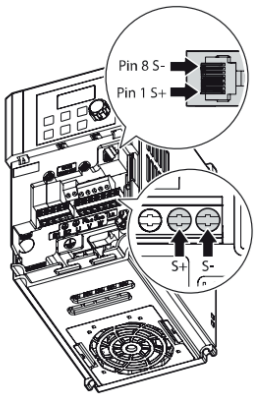
4.7. From motor potentiometer (MOP)




| Parameter | Function | Setting | Description |
|---|---|---|---|
| In.67 | Multifunction input P3 | Up | MOP UP function |
| In.68 | Multifunction input P4 | Down | MOD DOWN function |
| Ad.65 | MOP memory | Yes/No | Yes: the frequency set via MOP is saved in the event of run command loss, power-off or alarm. No: in the event of run command loss, power-off or alarm, the drive will restart from 0Hz. |
| Ad.85 | Up/Down Mode | 0 | When the command is kept pressed, the frequency is increased/decreased continuously. |

4.8. From RS485 communication port




| Parameter | Function | Setting | Description |
|---|---|---|---|
| Frq | Frequency setpoint source | 6 | Frequency regulation via built-in RS485 (Modbus-RTU) |
| dr.19 | Minimum frequency | 0.0Hz | Insert the value of the minimum frequency |
| dr.20 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |
| CM.01 | Serial node | 1-250 | Modbus serial node |
| CM.02 | Protocol | 0 | Modbus-RTU |
| CM.03 | Baud rate | 3 | 9600 bps |
| CM.04 | Data format | 0 | 8 data bits, no parity, 1 stop bit |

4.9. PID control

| Parameter | Function | Setting | Description |
|---|---|---|---|
| AP.01 | PID enable | 2 | PID function enabled |
| AP.20 | PID setpoint source | 0-6 | 0 = keypad<br>1 = V1 voltage analog input<br>3 = integrated front potentiometer<br>4 = I2 current analog input<br>5 = RS485 |
| AP.21 | PID feedback source | 0-5 | 0 = V1 voltage analog input<br>2 = integrated front potentiometer<br>3 = I2 current analog input<br>4 = RS485 |
| AP.29 | Maximum frequency | 50.00Hz | Insert the value of the maximum frequency |
| AP.30 | Minimum frequency | 30.00Hz | Insert the value of the minimum frequency |
| AP.37 | PID sleep mode: delay time | … s | PID sleep mode is activated when the frequency is less than AP.38 for a time longer than AP.37 |
| AP.38 | PID sleep mode: frequency threshold | … Hz | PID sleep mode is activated when the frequency is less than AP.38 for a time longer than AP.37 |
| AP.39 | PID wake up threshold | 0-100% | Set the threshold for deactivation of the sleep mode |
| AP.40 | Wake up mode | 0-1 | 0 = below level. PID mode is activated when the feedback variable drops below AP.39<br>1 = above level. PID mode is activated when the feedback variable rises above AP.39 |
| ACC | Acceleration time | 5.0 sec | Insert the value of the acceleration time |
| dEC | Deceleration time | 5.0 sec | Insert the value of the deceleration time |

5. MOTOR PARAMETERS

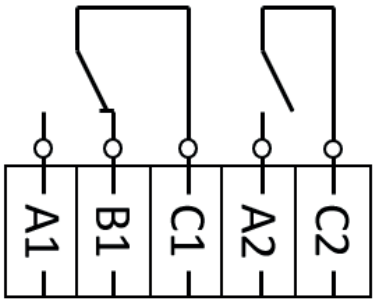
| Parameter | Function | Setting | Description |
|---|---|---|---|
| dr.09 | Motor control mode | 0-4 | 0 = V/f characteristics<br>4 = open loop |
| bA.07 | V/f shape | 0-3 | 0 = V/f linear<br>1 = V/f quadratic<br>2 = V/f user<br>3 = V/f quadratic for pumps and fans |
| bA.10 | Nominal frequency | 0-1 | 0 = 60Hz<br>1 = 50Hz |
| bA.11 | Number of motor poles | | Enter the motor number of poles |
| bA.12 | Rated slip speed | _rpm | Set the rated slip speed<br>Calculated as: fr – (rpm x P)/120<br>Where:<br>fr is the rated frequency<br>rpm is the rated motor rotations<br>P is the number of poles |
| bA.13 | Motor rated current | _A | Set the rated current of the motor |
| bA.14 | Motor no-load current | _A | Set the rated no-load current of the motor |
| bA.15 | Motor nominal voltage | _V | Set the rated voltage of the motor |
| bA.16 | Motor efficiency | _% | Set the motor efficiency (%) |
| Pr.40 | Electronic motor thermal protection | 0-2 | 0 = thermal protection disabled<br>1 = thermal protection enabled, coast to stop<br>2 = thermal protection enabled, stop with deceleration ramp |

6. ADDITIONAL FUNCTIONS

6.1. Stop mode setting

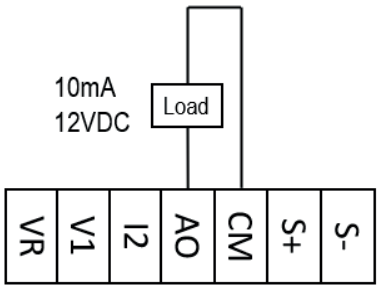
| Parameter | Function | Setting | Description |
|---|---|---|---|
| Ad.08 | Motor stop mode (stop) | 0 | 0 = deceleration ramp<br>1 = DC current braking<br>2 = free-run<br>4 = power braking |

6.2. Configuration of the relay output function



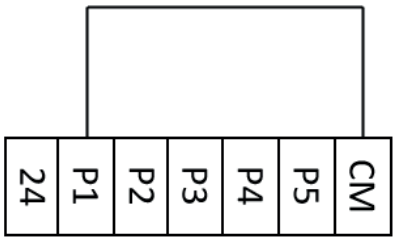

| Parameter | Function | Setting | Description |
|---|---|---|---|
| OU.31<br>OU.33 | Relay output 1 function<br>Relay output 2 function | 29 (default relay 1)<br>14 (default relay 2) | 29 = Fault. The relay switches in case of alarm.<br>14 = Run. The relay is active as long as the drive is running.<br>4 = Frequency threshold. The output is activated when the output frequency of the VLG3 is greater than the threshold set in OU.57 (set width OU.58 = 0 Hz)<br><br>For additional functions, refer to the I747 manual. |

6.3. Configuration fo the AO analog output function




| Parameter | Function | Setting | Description |
|---|---|---|---|
| OU.01 | AO analog function | 0 | 0 = Output frequency (10V output is made from the frequency set at dr.20).<br>1 = Output current (10V output is made from 200% of the driver rated current).<br>2 = Output voltage<br>8 = Frequency setpoint. (10V output at the maximum frequency dr.20).<br><br>For additional functions, refer to the I747 manual. |

6.4. Enable of the start at power-up function (AUTOSTART)






| Parameter | Function | Setting | Description |
|---|---|---|---|
| drv | Command source | 1, 2 | 1 = command from terminal block. P1: forward run, P2: reverse run<br>2 = command from terminal block. P1: run command, P2: reverse direction command |
| Ad.10 | Starting with power on | 1 | The motor is started automatically when the VLG3 is powered on. It is necessary for the run function to be associated with a digital input, and this must be kept closed to allow automatic restart. |
| In.65 | Multifunction input P1 | 1 | Forward command |

WARNING! The activation of this mode causes the automatic restart of the motor at the switching on of the mains voltage of VLG3 variable speed drive. Verify that all the safety requirements are met.

7. COMMON ERROR CODES

| Error code | Description | Possibile causes | Remedy |
|---|---|---|---|
| OLt | Overload | The load is greater than the motor's rated capacity.<br><br>The set value for the overload trip level (Pr.21) is too low. | Replace the motor and drive with models that have increased capacity.<br><br>Increase the set value for the overload trip level. |
| OCt | Overcurrent | Acc/Dec time is too short, compared to load inertia.<br><br>The drive load is greater than the rated capacity.<br><br>The mechanical brake of the motor is operating too fast.<br><br>A ground fault has occurred in the drive output wiring.<br><br>The motor insulation is damaged. | Increase Acc/Dec time.<br><br>Replace the drive with a model that has increased capacity.<br><br>Check the mechanical brake.<br><br>Check the output wiring.<br><br>Replace the motor. |
| OUt | Overvoltage | Deceleration time is too short for the load inertia.<br><br>A generative load occurs at the drive output.<br><br>The input voltage is too high.<br><br>A ground fault has occurred in the drive output warning.<br><br>The motor insulation is damaged. | Increase the deceleration time.<br><br>Use the braking unit.<br><br>Determine if the input voltage is above the specified value.<br><br>Check the output wiring.<br><br>Replace the motor. |
| EtH | Motor overtemperature | The motor has overheated.<br><br>The drive load is greater than the rated capacity.<br><br>The set value for electronic thermal protection is too low.<br><br>The drive has been operated at too low speed for an extended duration. | Reduce the load or operation frequency.<br><br>Replace the drive with a mode that has increased capacity.<br><br>Set an appropriate electronic thermal prevention (ETH) level.<br><br>Replace the motor with a model that supplies extra power to the cooling fan. |
| OHt | Power unit overtemperature | There is a problem with the cooling system.<br><br>The drive cooling fan has been operated for an extended period.<br><br>The ambient temperature is too high. | Determine if a foreign object is obstructing the air inlet, outlet, or vent.<br><br>Replace the cooling fan.<br><br>Keep the ambient temperature below 50°C. |