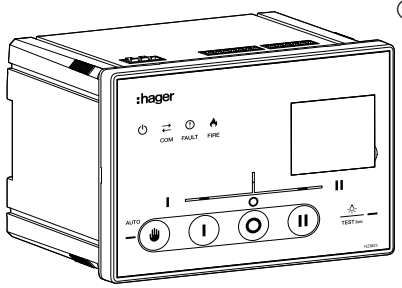
:hager



6LE007316Ab

(EN) Automatic Transfer Switching
Equipment Controller for HIB4xxM

HZI815/HZI825

⚠ Risk of electrocution, burns or injury to persons and/or damage to equipment. Risk of damaging the device In case the product is dropped or damaged in any way it is recommended to replace the complete product.

Preliminary operations

Check the following upon delivery and after removal of the packaging:

- Packaging and contents are in good condition.
- The product reference corresponds to the order.
- Contents should include:
  - 1 ATSE controller
  - 1 set of terminals connectors
  + 1 set of door mounting clips
  - 1x Quick Start instruction sheet

This Quick Start is intended for personnel trained in the installation and commissioning of this product. For further details refer to the product instruction manual available on www.hager.com.

This product must always be installed and commissioned by qualified and approved personnel.

Maintenance and servicing operations should be performed by trained and authorised personnel.

Do not handle any control or power cables connected to the product when voltage may be, or may become present on the product, directly through the mains or indirectly through external circuits.

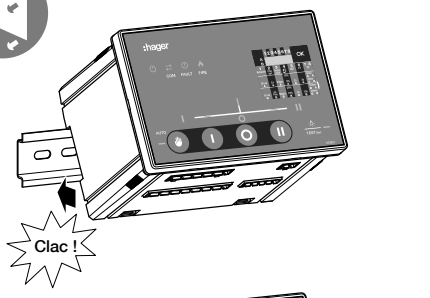
Always use an appropriate voltage detection device to confirm the absence of voltage.

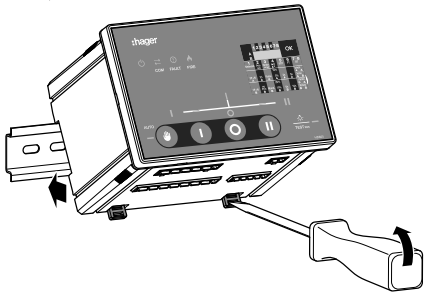
Ensure that no metal objects are allowed to fall in the cabinet (risk of electrical arcing).

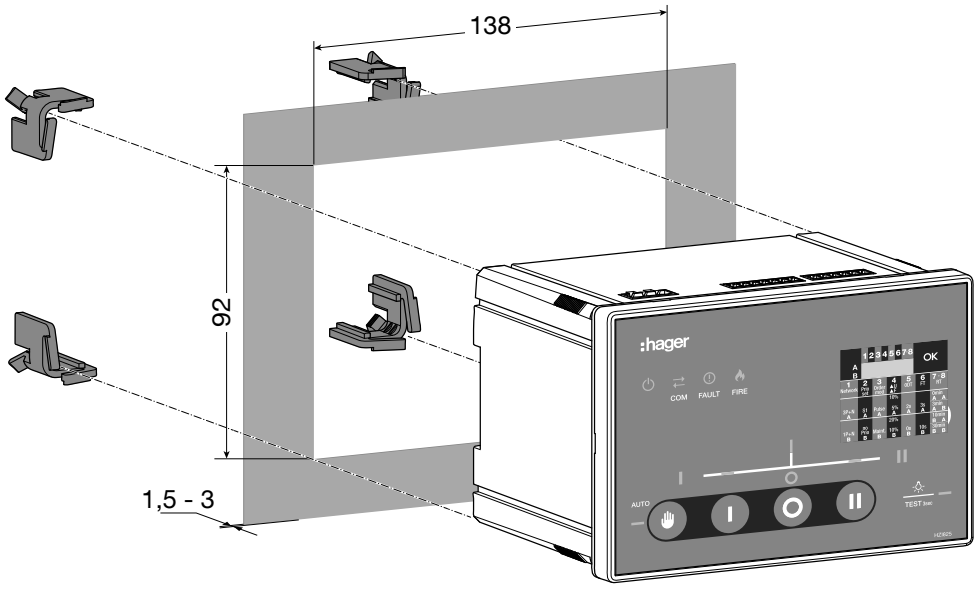
Failure to observe good enginering practises as well as to follow these safety instructions may expose the user and others to serious injury or death.

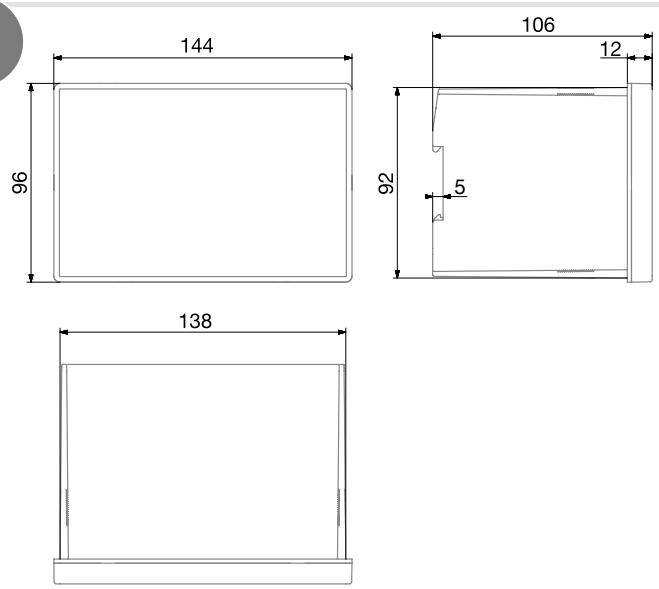
Installation and commissioning controller HZI815/HZI825

Step 1 Installation → **Step 2** Connection → **Step 3** Programming

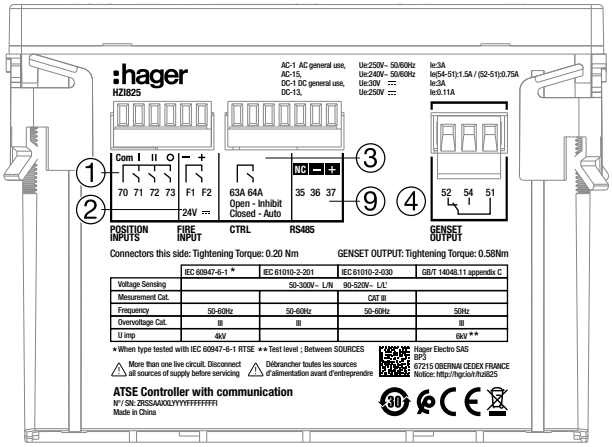


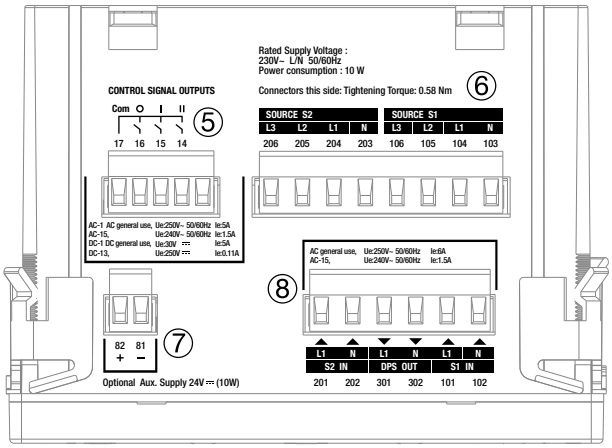






Connectors



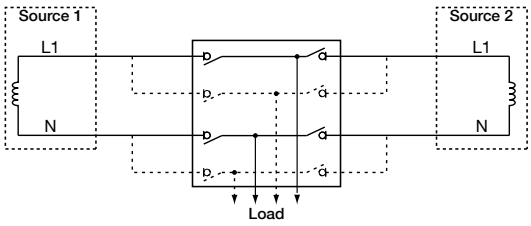


1. Motorized Change Over Switch position feedback input.
2. 24 VDC fire input.
3. Enable control when closed / disable control when open.
4. Genset Start relay.
5. Motorized Change Over Switch position control outputs.
6. Source 1 and 2 voltage sensing inputs.
7. 24 VDC Aux supply.
8. External Double Power Supply (DPS) – Input / output.
9. RS485 connections (for HZI825 only).

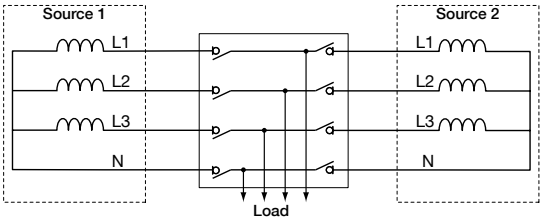
Networks

Type of networks

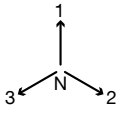
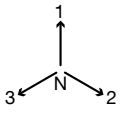
1P+N:
HZI815 or HZI825 is suitable for single phase networks, for with voltages within 184-300 VAC L-N.
In these networks, the phase must be connected to the L1 input (terminal 104 for source 1 and 204 for source 2).



3P+N:
HZI815 or HZI825 is suitable for three phase with neutral networks, for with voltages within 184-300 VAC L-N and 318-520 VAC L-L'.

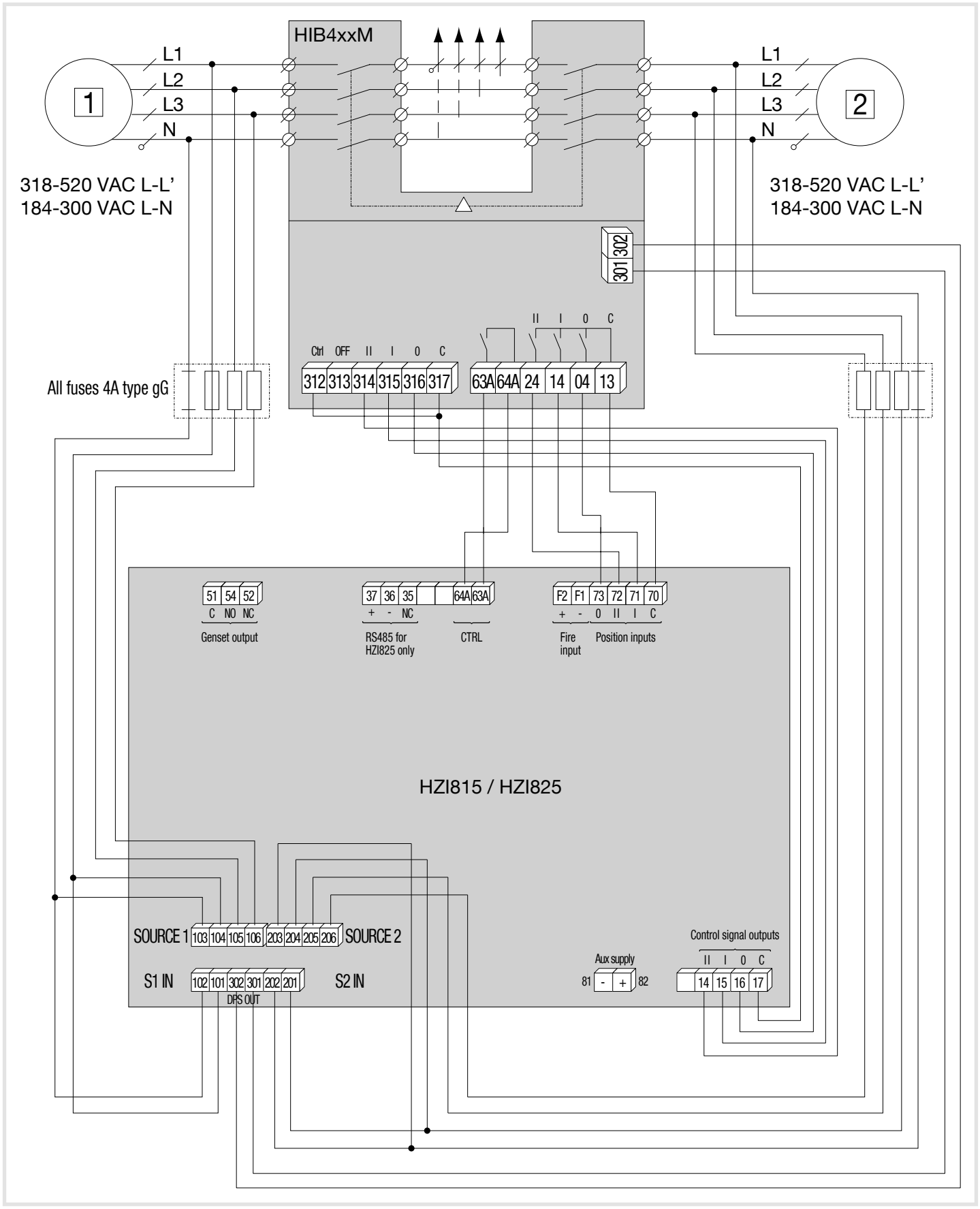


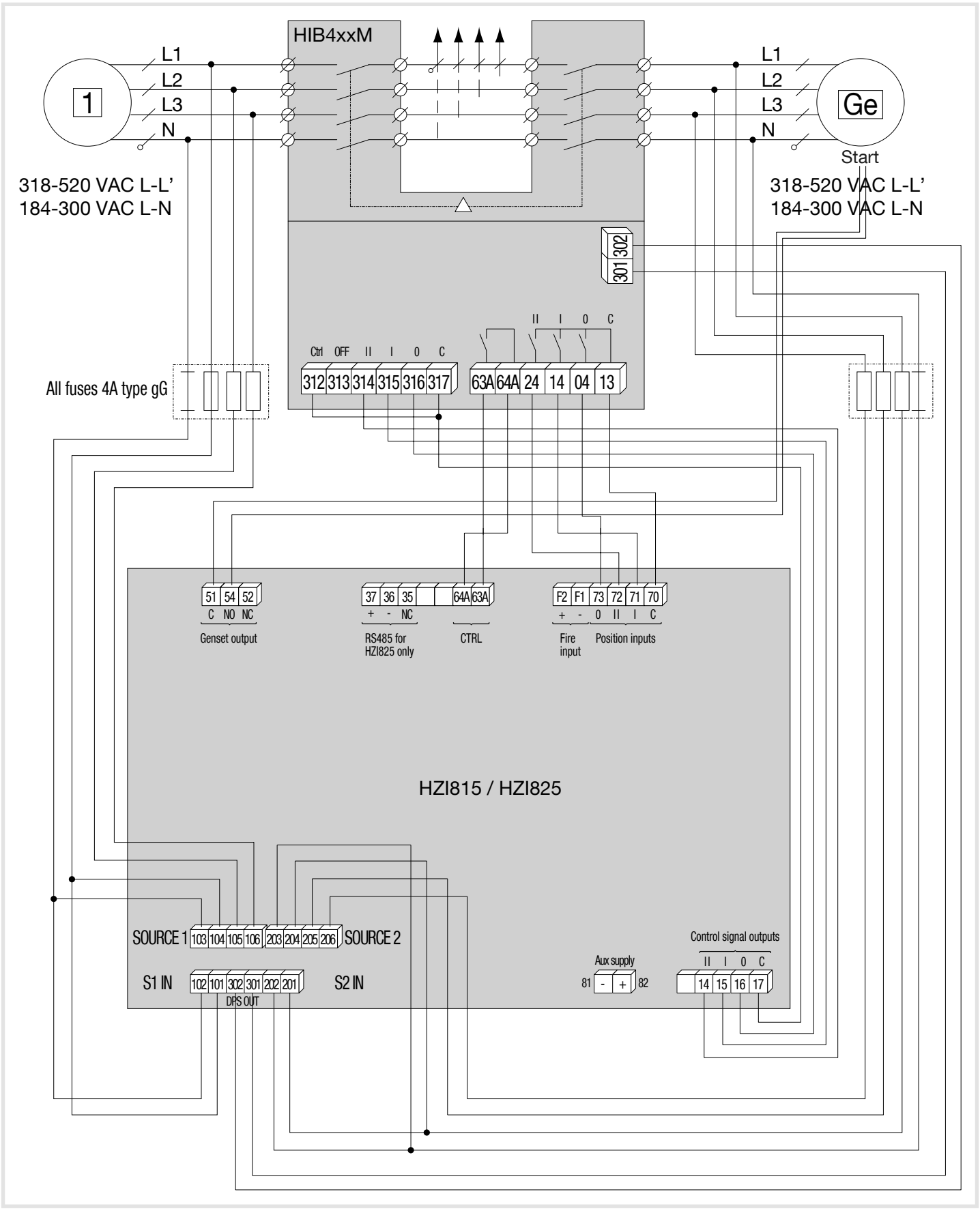
Metering and sensing detail

Network type		
	1P	**3P + N**
Source 1	1 phase 2 wire	3 phase 4 wire
Source 2		
Source 1		
Source 2		
Voltage sensing		
Source 1	- V1	U12, U23, U31 V1, V2, V3
Source 2	- V1	U12, U23, U31 V1, V2, V3
Source presence (source available)	✔	✔
Source in ranges (U, V, F)	✔	✔

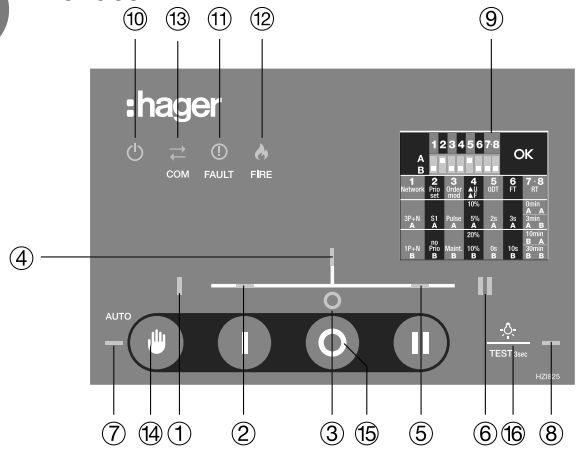
In 3 phases with Neutral balanced networks, there is a risk that the loss of neutral will not be detected.
To limit this risk the Dip switch 4 (Hysteresis) can be switched to position A.

HZI815 / HZI825 with HIB4xxM / HIC4xxR (200-630A) / HIC4xxD
for network / network application type




HIB4xxM
L1
L2
L3
N
1
318-520 VAC L-L'
184-300 VAC L-N
Ge
Start
301 302
All fuses 4A type gG
Ctrl OFF II I 0 C
312 313 314 315 316 317
II I 0 C
63A 64A 24 14 04 13
51 54 52
C NO NC
Genset output
37 36 35 64A 63A
+ - NC
RS485 for HZI825 only
CTRL
F2 F1 73 72 71 70
+ - 0 II I C
Fire input
Position inputs
HZI815 / HZI825
SOURCE 1
103 104 105 106 203 204 205 206
SOURCE 2
S1 IN
102 101 302 301 202 201
DPS OUT
S2 IN
Aux supply
81 - + 82
Control signal outputs
II I 0 C
14 15 16 17

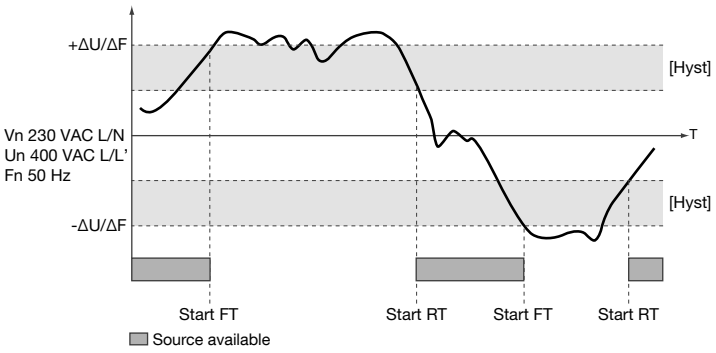
Interface



1. Source 1 availability information (Green fixed when source 1 is present and available and within threshold limits, green blinking when source 1 is present but outside of threshold limits, off when under 50 VAC).
2. Switch 1 LED position indication (Green fixed when in position 1).
3. Zero position LED indication (Yellow when in position 0).
4. Load supplied information (Green fixed when load is supplied by an available source).
5. Switch 2 LED position indications (Green fixed when in position 2).
6. Source 2 availability information (Green fixed when source 2 is present and available and within threshold limits, green blinking when source 2 is present but outside of threshold limits, off when under 50 VAC).
7. Auto LED indication (Green fixed when in automatic, blinking when transfer is ongoing, off when in manual mode).
8. Test LED (Yellow fixed when test on load is ongoing).
9. Configurations dip switches (see settings).
10. Run LED (Green when product is powered).
11. Fault LED (Red blinking – long blink when fault or inhibit is activated (63 A - 64 A open), short blink when a dip switch parameter has been changed and needs validation).
12. Fire (Red when fire input is activated).
13. COM LED (yellow blinking when RS communications is ongoing) (for HZI825 only).
14. Change AUTO/MANU pushbutton, press at least 3 seconds to switch from AUTO to MANU or MANU to AUTO.
15. Remote order to switch positions, controller must be in MANU mode for the buttons to be active.
16. Test button with two functions lamp test and TEST ON LOAD. To start a lamp test short press on the test button (<3s) ,press again (<3s) to end test. To start a TEST ON LOAD, long press on the test button (>3s), when LED (8) is blinking press the “0” button. To end the TEST on load long press on the test button (>3s).

Hysteresis & timers

0DT: Dead Band Timer (time to stay in O position during transfer).
FT: Fail Timer (time which the source can be outside the threshold’s limits before it is considered lost).
RT: Return Timer (time which the source must be within the threshold’s limits before it is considered available).

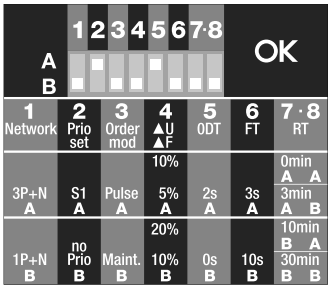


Standards

	IEC 60947-6-1*	IEC 61010-2-201	IEC 61010-2-030	GB/T 14048.11 appendix C
Voltage sensing	50-300 VAC L/N		90-520 VAC L/L’	
Operating voltage	184-300 VAC L/N		318-520 VAC L/L’	
Measurement category			CAT III	
Frequency	50-60 Hz	50-60 Hz	50-60 Hz	50 Hz
Overvoltage category	III	III		III
Uimp	4 kV			6 kV**

* When type tested with IEC 60947-6-1 RTSE ** Test level ; Between SOURCES

Settings



Product must be in manual mode (LED 7 OFF) for configuration changes.

After changing DIP switch settings press OK button shortly (<3s) to validate.

To reset controller: push >30s OK button.

DIP switch		
1. Network	A	Three phase network
	B	Single phase netwrok
2. Prio Set	A	Priority source 1
	B	No priority
3. Order mod	A	Control mode impulse logic
	B	Control mode contactor logic
4. ΔU/ΔF	A	Setting: +/- 10% of Nominal Voltage and +/- 5% of Nominal Frequency*
	B	Setting: +/- 20% of Nominal Voltage and +/- 10% of Nominal Frequency*
5. 0DT	A	Load supply down time of 2s (0DT = 2s)
	B	Load supply down time of 0s (0DT = 0s)
6. FT	A	Wait time of 3s before source is lost (Fail timer = 3s)
	B	Wait time of 10s before source is lost (Fail timer = 10s)
7/8. RT	AA	Wait time of 0min (3s) before source returns (returnstimer = 0min (3s))
	AB	Wait time of 3min before source returns (returnstimer = 3min)
	BA	Wait time of 10min before source returns (returnstimer = 10min)
	BB	Wait time of 30min before source returns (returnstimer = 30min)

* hysteresis value is 20% of settings

Cool down timer fixed and set at 180s.

MODBUS communication parameters (only for HZI825)

Dec. Address	Word count	Description	Unit
40017	1	HZI825 communication node address	1 … 247
40018	1	Baud rate	2 : 2400 3 : 4800 4 : 9600 5 : 19200 6 : 38400
40019	1	Serial Data format	1 : 8N 2 : 80 3 : 8E 4 : 70 5 : 7E
40020	1	Stop bit	1 … 2

As standard the baud rate is set to 38400, parity bit to 1, Modbus address 3 these parameters can be changed through Modbus using the write function 10.
Once the configuration is done, write data 1 at address Dec. 40565. After changing the parameters the product buzzer will sound twice and the Com LED will stay on.
To reset to default parameters press the OK button for 30 seconds, the product will reboot and the standard communication settings will be set.

Technical characteristics

Denomination	Terminal	Description	Characteristics	Recommended Cable section	Tightening torque / screw type
Control signal outputs (orders to RTSE)	14	Position II order	AC1 - General use - Ie : 5A, Ue : 250 VAC DC1 - General use - Ie : 5A, Ue : 30 VDC	1 … 2.5mm²	0.58 Nm
	15	Position I order			
	16	Position 0 order			
	17	Common point for position output			
RS485*	35	NC - Not connected	RS485 isolated bus	LiYCY shielded twisted pair	0.2 Nm / M2
	36	Negative electrode			
	37	Positive electrode			
Output for genset	51	Common point		1 … 2.5mm²	0.58 Nm
	52	Normaly closed contact	AC1 - General use - Ie : 3A, Ue : 250 VAC DC1 - General use - Ie : 3A, Ue : 30 VDC		
	54	Normaly open contact	AC1 - General use - Ie : 5A, Ue : 250 VAC DC1 - General use - Ie : 5A, Ue : 30 VDC		
Controller inhibit input	63A	Controller is inhibited when this contact is open	Do not use external voltage - Power from common point	0.5 … 1.5mm²	0.2 Nm / M2
	64A				
Position inputs (return of information from RTSE)	70	Common point for position inputs	Do not use external voltage - Power from common point	0.5 … 1.5mm²	0.2 Nm / M2
	71	Position I RTSE			
	72	Position II RTSE			
	73	Position 0 RTSE			
Fire input	F1	Negative electrode of the 24 VDC	12-24 VDC	0.5 … 1.5mm²	0.2 Nm / M2
	F2	Positive electrode of the 24 VDC			
Optional Auxiliary supply 24 VDC	81	Negative electrode of the 24 VDC	10-30 VDC (Auxiliary supply for controller, does not supply RTSE)	1 … 2.5mm²	0.58 Nm / M3
	82	Positive electrode of the 24 VDC			
Source 1 and 2 voltage inputs	103	Source 1 N	Sensing range: 50-300 VAC L/N 90-520 VAC L/L' Range: 184-300 VAC L/N Max consumption: 10 W	1 … 2.5mm²	0.58 Nm / M3
	104	Source 1 L1			
	105	Source 1 L2			
	106	Source 1 L3			
	203	Source 2 N			
	204	Source 2 L1			
	205	Source 2 L2			
	206	Source 2 L3			
DPS output (RTSE power supply)	301	Phase output	AC - General use - Ie : 6A, Ue : 250 VAC DC - General use - Ie : 6A, Ue : 30 VDC	1 … 2.5mm²	0.58 Nm / M3
	302	Neutral output			

* for HZI825 only

Trouble shooting guide

Definition		Recommended action
Sources are not detected		- Verify that the product is correctly powered on using the power LED. - Verify that the DIP switch settings are corresponding to your installation.
Positions are not detected		- Verify that the position input cabling is correctly done.
Source LED are blinking		- Verify that the sources are in the voltage range configured through DIP switch or communication. - Verify that the sources are cabled correctly. - Verify that the phase rotation is identical on both sources.
Alarm LED is blinking	Long blinking	- Verify that Neutral of source I is connected to terminals 103/102 and that Neutral of source II is connected to terminals 203/202. Connected a Phase instead Neutral can damaged definitely the product. - Verify that the input 63A-64A is closed. - Verify that there has not been a problem during a transfer order and validate fault with the AUTO button.
	Short blinking	- Verify that the DIP switches have not changed position or validate the change of position using the OK button.
COM LED is on fixed (for HZI825 only)		- Verify that Communication settings are set according to your specification. - Press “OK” for 30 seconds to reset the Communication settings. - Contact Hager for other information.
DIP switch parameters are not taken into account		- Check if the alarm LED is blinking. - Verify that you are in manual mode when changing DIP switch parameters. - Press the “OK” button for less than 3s to validate the parameter change.