

Electrical installation

Flexible I/O configuration

Default setting
*P201.01
(configured AI1 as standard setpoint)

*P400.02
Start

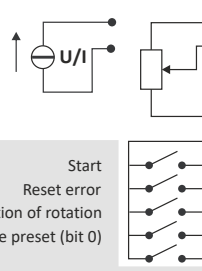
*P400.04
Reset error

*P400.13
Reverse direction of rotation

*P400.18
Activate preset (bit 0)

*P420.02
DO1 triggered when **Running**

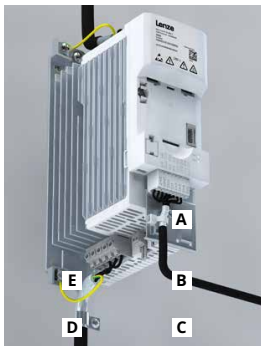
*P420.01
Relay triggered when **Ready for operation**



24E	Optional external 24 V supply (only i550)
GND	GND for analog and digital signals
AI1	Analog input 1 Config.: *P430.01 (0 ... 10 VDC signal)
AI2	Analog input 2 Range [Hz]: *P430.02 - *P430.03
AO1	Analog output 1
10V	10 VDC, supply for potentiometer
24V	24 VDC, 100 mA supply, reference for digital inputs
DI1	Digital input 1
DI2	Digital input 2
DI3	Digital input 3
DI4	Digital input 4 Configuration Preset 01: *P450.01
DI5	Digital input 5
DO1	Digital output 1
GND	GND for analog and digital signals
NO	NO contact relay
COM	Middle contact relay
NC	NC contact relay

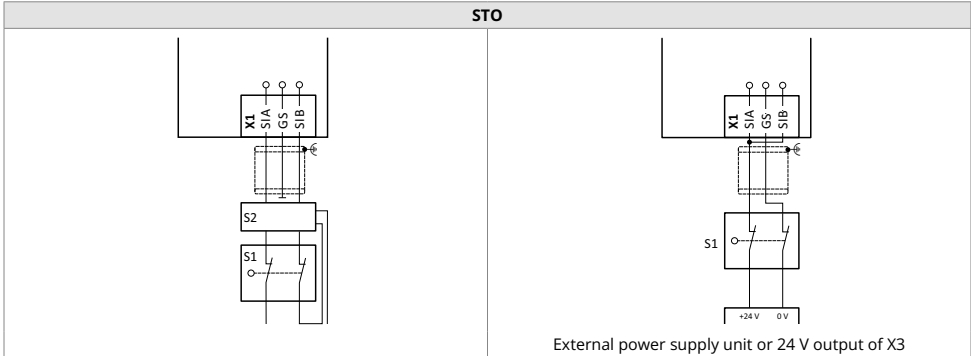


- A Shielding of control connections
- B Control cable
- C Mains cable
- D EMC cable gland
- E Low-capacitance motor cable



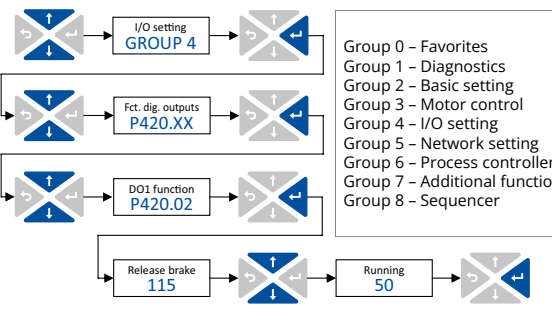
- A Shielding of control connections
- B Control cable
- C Mounting plate with conductive surface
- D Shield connection for motor cable (alternatively: shield connection on an optional motor shield plate)
- E Low-capacitance motor cable

Optional STO installation



- The transmission of the pulse width modulation is safely switched off by STO. The power drivers no longer generate a rotating field.
- The motor is safely switched to torqueless operation.

Keypad control



Group 0 – Favorites
Group 1 – Diagnostics
Group 2 – Basic setting
Group 3 – Motor control
Group 4 – I/O setting
Group 5 – Network setting
Group 6 – Process controller
Group 7 – Additional functions
Group 8 – Sequencer

Navigation in the menu	Parameter alteration
Go to Menu/Parameters	Confirm parameter
Quit Menu/Parameters	
Keypad control	
Start motor	
Change direction of rotation	
Stop motor	

Group 0 - Favorites: Quick access to the most important parameters (*)

Basic setup (V/f mode)

Parameter	Description	Default	Proposal	Comment
P700.01	Load default settings	0	1	
P200.01	Control source	0	0	Flexible
P201.01	Frequency setpoint source	2	11	Preset speed 1
P203.01	Start method	0	0	Normal
P203.03	Stop method	1	1	Standard ramp
P210.00	Minimum frequency	0.00	10.00	
P211.00	Maximum frequency	50.00	50.00	
P220.00	Acceleration time 1	5.00	2.00	
P221.00	Deceleration time 1	5.00	2.00	
P303.01	Base voltage	-	400	Volts
P320.04	Motor parameter: Rated speed	1450	1450	According to the motor nameplate
P320.05	Motor parameter: Rated frequency	50	50	According to the motor nameplate
P323.00	Motor parameter: Rated current	variable	45.70	According to the motor nameplate
P400.01	Enable inverter	0	1	
P400.02	Run	0	11	Digital input 1
P400.06	Start forward	0	12	Digital input 2
P400.18	Activate preset 1	14	14	Digital input 4
P400.45	Disable PID controller	0	14	Digital input 4
P420.01	Digital output function: Relay	51	51	Ready for operation
P420.02	Digital output function: DO	115	50 Alternatively: 155	Drive is "running" Alternatively: STO active
P430.01	Analog input 1: Input range	0	0	Depends on the setpoint source
P430.04	Transducer: Min. PID value	0	0	PID units
P430.05	Transducer: Max. PID value	100	100	PID units
P450.01	Preset speed 1	20	20	Fixed speed
P605.01	Transducer: PID minimum setpoint limit	-300	-300	PID units
P605.02	Transducer: PID maximum setpoint limit	300	300	PID units
P700.03	Save user data	0	1	Saves parameters to memory module Alternatively: Press the "Enter" button on the keypad for 3 seconds

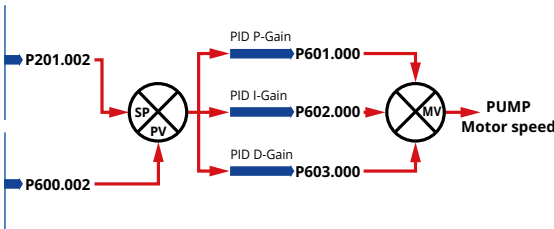
PID setup

SETPOINT source

- Keypad (1)
- Analog input 1 (2)
- Analog input 2 (3)
- HTL input (4)
- Network (5)

FEEDBACK Source

- Analog input 1 (1)
- Analog input 2 (2)
- Network (5)
- HTL input (6)



Parameter	Description	Default	Proposal	Comment
P201.02	Default setpoint source	1	2	Analog input 1
P600.01	Operating mode	0	1	Normal operation
P600.02	PID process variable	1	2	Analog input 2
P601.00	PID P-component	5.0	5.0	Adjusts the actual value to the setpoint
P602.00	PID I-component	400	400	Adjusts the accuracy of the PID controller
P603.00	PID D-component	0	0	Do not change the value
P610.01	PID sleep mode: Activation	0	2	Feedback > P610.04
P610.02	PID sleep mode: Stop method	0	0	Coast to stop
P610.03	PID sleep mode: Frequency threshold	0	32	
P610.04	PID sleep mode: Feedback threshold	0.00	50	PID units
P610.05	PID sleep mode: Delay time	0	10	This is the minimum time the values must fall below or exceed the respective threshold before the sleep mode is activated.
P610.06	PID sleep mode: Recovery	0	0	Speed setpoint > P610.03
P610.07	PID sleep mode: Bandwidth	0	0	Depends on the pump type
P610.08	PID sleep mode: Recovery threshold	0	32	PID units

Flying restart setup in fan applications

Parameter	Description	Default	Proposal	Comment
P203:001	Start method	0	2	Flying restart circuit
P718:001	Flying restart circuit: Current	30	30	30% of the rated motor current
P718:002	Flying restart circuit: Start frequency	20	10	Start frequency to synchronize on the running motor
P718:003	Flying restart circuit: Flying restart frequency	-	1000	1000 ms is a good time to restart the motor

Diagnostics

Diagnostics		
*P100.00 Output frequency [Hz]	*P103.00 Actual current [%] (100 % = Rated motor current)	P125.01 Active control source
P102.00 Frequency setpoint [Hz]		P125.02 Active setpoint source

LED "RDY" (blue)	LED "ERR" (red)	State/meaning
off	off	No supply voltage
		Initialization (drive is started)
blinking	off	Safe torque off (STO) active. The drive has been disabled by the integrated functional safety. (Optional, i550 only)
	blinking fast	Safe torque off (STO) active, warning present. The drive has been disabled by the integrated functional safety. (Optional, i550 only)
blinking	off	Drive disabled
	blinking fast	Drive disabled, warning present
		Drive disabled, error active
	on briefly every 1.5 s	Drive disabled, no DC-bus voltage
	off	Drive enabled. The motor rotates according to the specified setpoint or quick stop active.
	blinking fast	Drive enabled, warning present. The motor rotates according to the specified setpoint or quick stop active.
	blinking	Drive enabled, quick stop active as response to a fault.

Error message	Cause (W. = Warning, T. = Fault, F. = Error)	Remedy
.2382/.2383	Ixt error/Ixt warning	Reduce load, adapt ramps
.3210/.3211	Overvoltage DC bus/ Warning overvoltage DC bus	Reduce dynamic performance of the load profile, check mains voltage and settings for brake energy management
.3220/.3221	Undervoltage DC bus/ Warning undervoltage DC bus	Check mains voltage, DC-bus voltage (P105.00), mains settings, and fuses
.3222	DC-bus voltage too low for switch-on	
.4310	Motor overtemperature problem (PTC)	Check ambient temperature and motor load
.6280	Trigger/functions incorrectly connected	If Flexible I/O configuration (*P200.01) is active, Enable inverter (*P400.01) or Start (*P400.02) must be assigned to an I/O. Do not use Start forwards/reverse and Run forwards/reverse at the same time!
.FF37	Automatic start inhibited	Deactivate starting command and reset error