



Your Advantages

- Simple and time saving as well as user friendly operation because of
 - "Adaptive acceleration control" (self learning acceleration control)
 - Graphical LCD display for parameterization and visualisation
- Adjustable bus bars for units from 360 A ... 1600 A for easy connection
- Comprehensive and customer specific motor protection functions because thermal motor model - external motor protection is not necessary
- Emergency operation, i.e. in the case of failure a 2-phase control allows motor operation
- Slow motion operation forward and reverse
- DC brake (contact free), therefore no brake contactor necessary

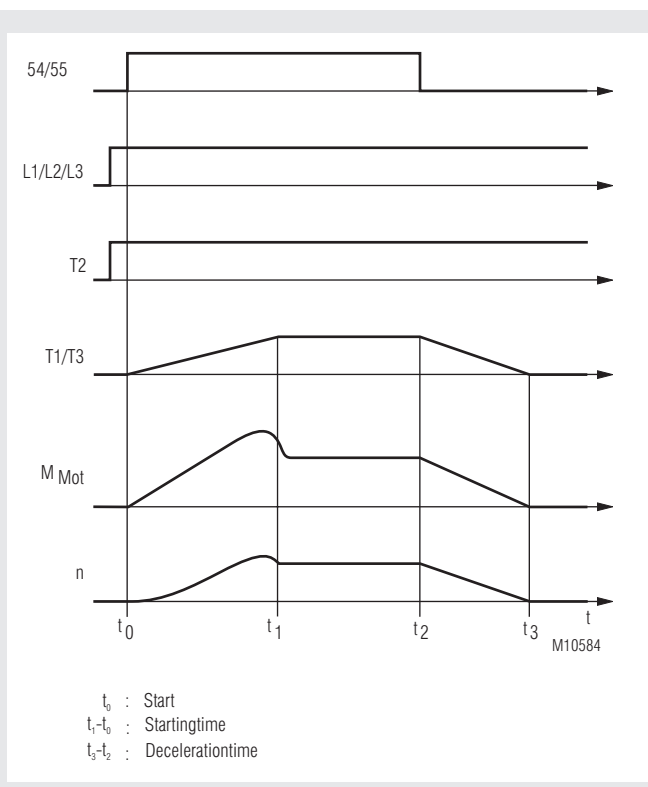
Features

- 3-phase softstarter for asynchronous motors up to 800 kW (400 V)
- W3 connection up to 1300 kW (400V)
- Nominal current 23 ... 1600 A
- Integrated bridging contactor up to 220 A
- Programmable in- and outputs for fault indication and operation
- Motor-PTC connection possible
- Communication interfaces as option for Profibus, Devicenet or Modbus
- Start and stop via separate push buttons or control switch

Adjustable functions:

- Emergency operation
- Slow motion operation forward and reverse
- Control input (3 x fixed, 1 x programmable)
- Relay output (3 x programmable)
- 24 V DC output
- Analogue output
- Different softstart / stop modes
- 690 V units on request

Function Diagram



Approval and Marking



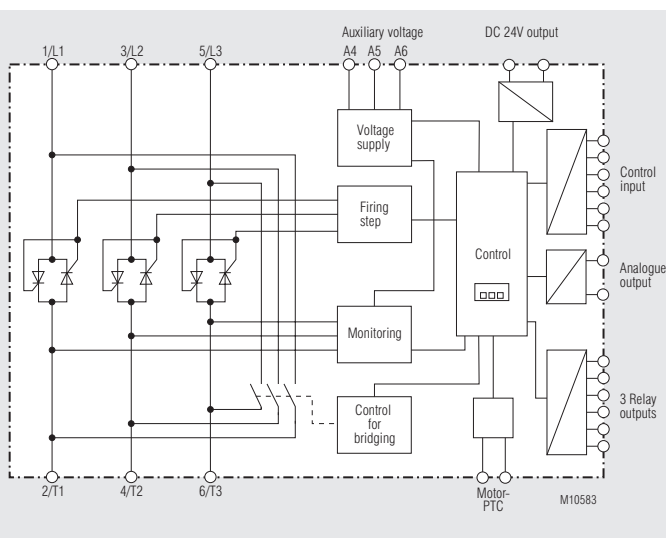
Application

- Pumps
- Fans and ventilation systems
- Conveyor systems and elevators
- Compressors
- Mills, crushers, presses
- ... and for all applications with ambitious start-up and deceleration

Indication

Graphical LCD display for parameterization and visualisation

Block Diagram



Technical Data

Nominal voltage: 3 AC 200 ... 525 V ($\pm 10\%$)
3 AC 380 ... 690 V ($\pm 10\%$)

Nominal frequency: (at start): 45 ... 66 Hz

Rated current I_N (A):	23	43	53	76	105	145	170
Motor power at 400 V (kW):	-11	-18.5	-30	-45	-55	-75	-90
I ² T-Power semiconductor fuse (kA ² s):	1.15	8	15	15	125	125	320
Weight (kg):	3.2	3.2	3.2	3.5	4.8	16	16

Rated current I_N (A):	220	255	380	430	650	790	930
Motor power at 400 V (kW):	-110	-132	-200	-250	-310	-400	-500
I ² T-Power semiconductor fuse (kA ² s):	320	320	320	320	1200	2530	4500
Weight (kg):	16	25	50.5	50.5	53.5	53.5	53.5

Rated current I_N (A):	1200	1410	1600
Motor power at 400 V (kW):	600	700	800
I ² T-Power semiconductor fuse (kA ² s):	4500	6480	12500
Weight (kg):	140	140	140

Softstart mode: Constant current, voltage ramp, "Adaptive acceleration control", kick start

Deceleration mode: Softstopp, braking, free wheeling

Operating frequency 3 x I_e and 10 s: AC53b 3.0 - 10:350 10 h

Switching capacity relay output: 10 A / AC 250 V ohmic;
5 A / AC 250V AC15
- 10 °C ... + 40 °C (+60 °C Derating)

ambient-temperature:

Auxiliary voltage (A4, A5, A6)
either: AC 110 and 220 V (+ 10% / - 15%; 600 mA)
or: AC/DC 24 V ($\pm 20\%$)

Inputs

Nominal value for "active input": DC 24 V, 8 mA

Start (54,55): normally open

Stopp (56,57): normally closed

Reset (58,57): normally closed

programmable

input (53,55): NO contact

Motor thermistor (64, 65): response > 3.6 k Ω ;
reset < 1.6 k Ω

Outputs

Relay outputs 10 A at AC 250 V ohmic, 5 A at AC 250 V AC15 Lf 0.3 programmable outputs

relay A (13, 14): normally open

relay B (21, 22, 24): change-over

relay C (33, 34): normally open

Analogue output (40, 41): 0 ... 20 mA or 4 ... 20 mA (adjustable)

Max. load: 600 W (DC 12 V at 20 mA)

Accuracy: $\pm 5\%$

DC 24 V-output (P24, COM) max. load: 200 mA

Accuracy: $\pm 10\%$

Technical Data**Short circuit capability**

Coordination with semiconductor fuses: Typ 2

Coordination with HRC fuses: Typ 1

23 ... 105 A
prospective current: 10 kA

145 ... 255 A
prospective current: 18 kA

360 ... 930 A
prospective current: 85 kA

1200 ... 1600 A
prospective current: 100 kA

General Data**Degree of protection**

at 23 ... 105 A: IP 20 IEC/EN 60 529

at 145 ... 1600 A: IP 00 IEC/EN 60 529

at 145 ... 220 A: IP 20 with additional finger guard kit (see accessories)

Temperature range

operation: - 10 °C ... + 60 °C
over 40 °C with low nominal value

storage temperature: - 25 ... + 60°C

Altitude:

0 ... 1000 m
over 1000 m with low nominal value

Humid: 5% ... 95% relative humid

Pollution degree: 3

Rated insulation voltage to earth:

rated impuls voltage fuse: AC 600 V
4 kV

Form designation: Bypassed or continuous, semiconductor motor starter form 1

EMC

Surge voltage between wires for power supply: 1 kV IEC/EN 61 000-4-5

between wire and ground: 2 kV IEC/EN 61 000-4-5

Fast transients: 5/50 μ s

Voltage dip and short time interruption: 100 ms (at 40 % nominal voltage)

Harmonics and distortion: IEC 61000-2-4 (class 3), IEC/EN61800-3

Short circuit

Short circuit current

7.5 ... 37 kW: 5 kA

55 ... 110 kW: 10 kA

Heat dissipation:

during start: 4,5 Watt / Ampere

during operation

23 ... 53 A: ≤ 39 Watt (approx.)

76 ... 105 A: ≤ 51 Watt (approx.)

145 ... 220 A: ≤ 120 Watt (approx.)

during operation

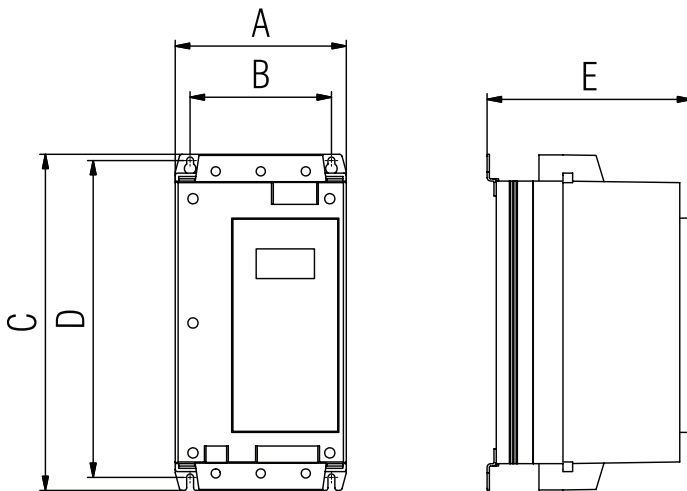
255 ... 930 A: 4.5 Watts / Ampere (approx.)

1200 ... 1600 A: 4.5 Watts /Ampere (approx.)

Technical Data

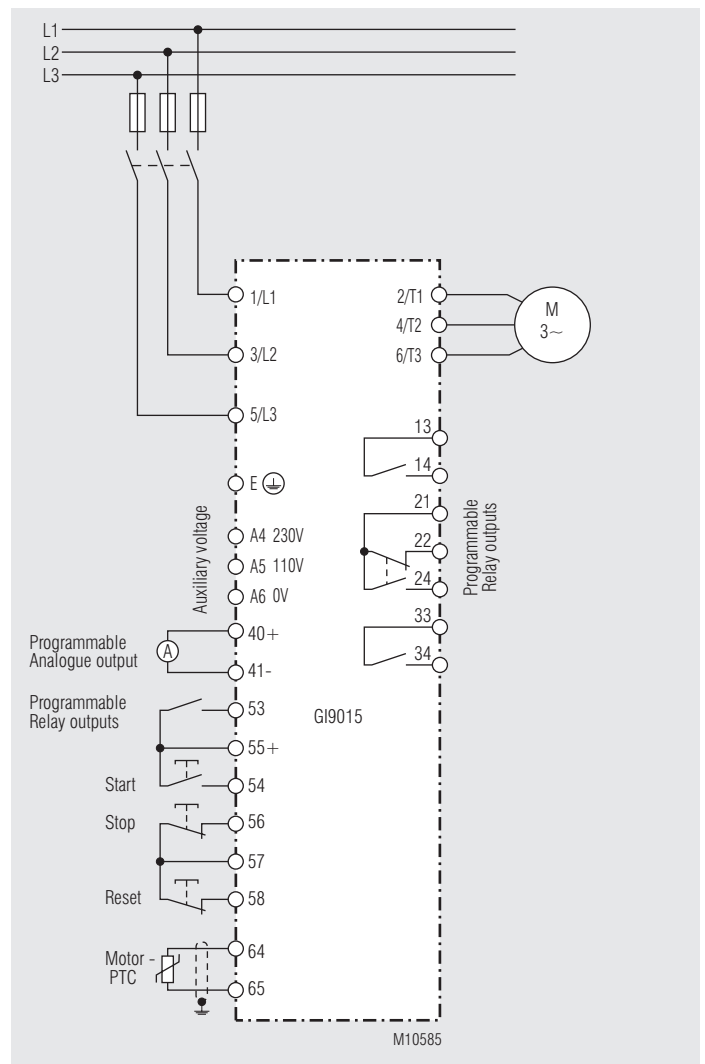
Dimensions

Unit	A mm	B mm	C mm	D mm	E mm	Weight kg
23 A	156	124	295	278	192	3.2
43 A						
53						
76						
105						
145	282	250	438	380	250	16
170						
220						
255	390	320	417	400	281	25
380	430	320	545	522	302	50.5
430						
650						
790						
930						
1200	574	500	750	727	361	140
1410						
1600						



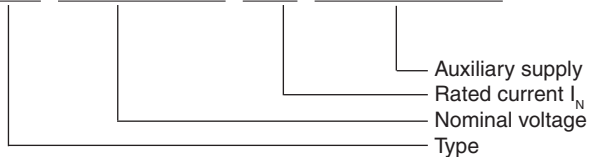
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Connection Example



Ordering Example

GI 9015 3 AC 200 ... 525 V 105 A AC 110 V and 220 V



Accessories

- GW 5312: DeviceNet-Module
- GW 5313: Modbus-Module
- GW 5314: Profibus-Module
- GW 5316: Finger guard kit and touch protection

