TeK

Drive

AC MOTOR

TDS-V8

C E

■ **Modbus RS-485 can control at most 31 inverters at the same time.**

HMI

Industrial PC

Ethernet

PLC

Notebook

PLC

RS-485

Inverter
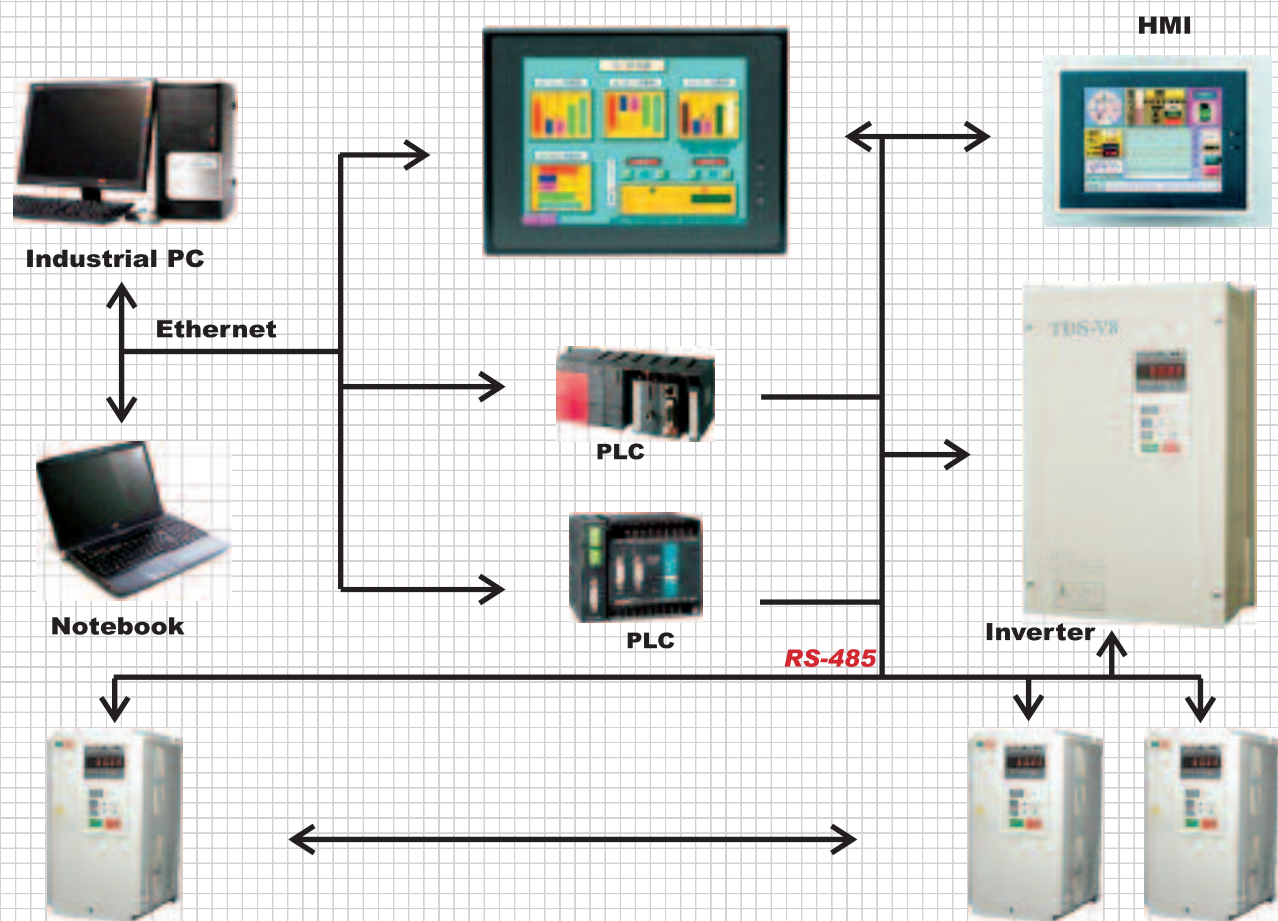
TDS - V8

3-Phase
AC 220 V **High Performance**

AC 440 V **Wide Applications**

Capacity(KW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160

TDS - F8

Single-Phase
AC 220 V

3-Phase
AC 220 V

Easy for Operation

Cost Efficency

Powerful

Peripherals:
Extension cable wire
LED operator
LCD operator (TDS-V8 only)
Brake unit
EMC compliant filter
Ferrite ring

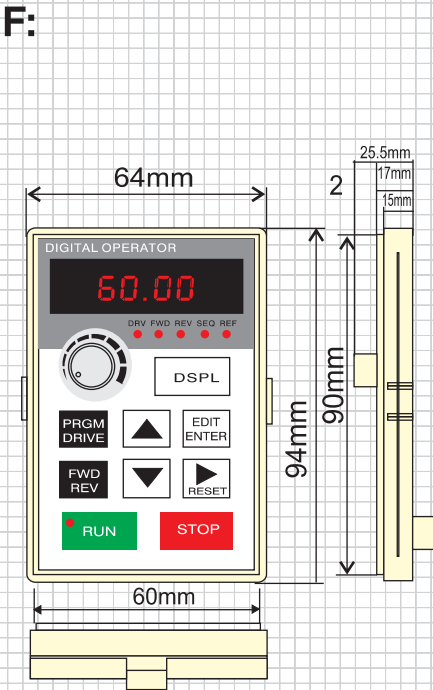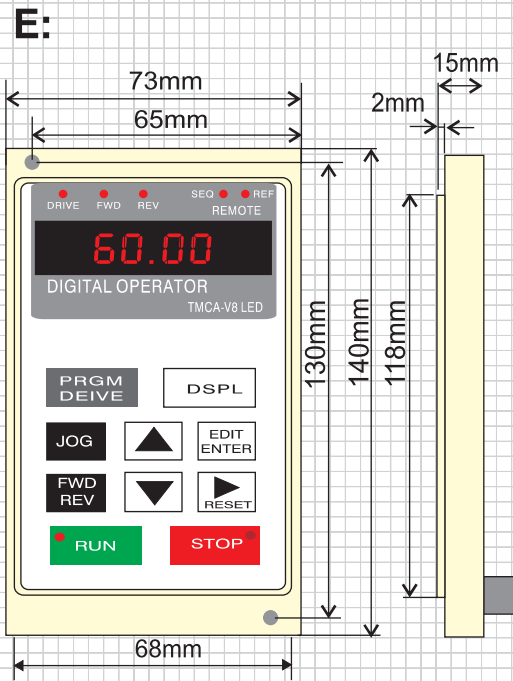| Capacity(KW)	0.4	0.75	1.5

■ Inverter model number

TDS-V8-L0P7 E

TDS-V8
TekDrive Inverter series

Rated Voltage
L:220V, 60Hz(200V, 50Hz)
H:440V, 60Hz(400V, 50Hz)

Max. Applicable Motor Output(KW)

Operator Types
C:LCD operator
E:LED operator
F:LED with VR

F:

64mm
25.5mm
17mm
15mm
2
DIGITAL OPERATOR
60.00
DRV FWD REV SEQ REF
DSPL
PRGM DRIVE
EDIT ENTER
FWD REV
RESET
RUN
STOP
94mm
90mm
60mm

Standard for 3.7KW & below

E:

73mm
65mm
15mm
2mm

DRIVE FWD REV SEQ REF REMOTE
60.00
DIGITAL OPERATOR
TMCA-V8 LED
PRGM DEIVE
DSPL
JOG
EDIT ENTER
FWD REV
RESET
RUN
STOP
130mm
140mm
118mm
68mm

Standard for 5.5KW & above

C:

DRIVE FWD REV SEQ REF REMOTE
TDS-V8
Tek-Drive
DIGITAL OPERATOR
TMCA-V8 LED
PRGM DEIVE
DSPL
JOG
EDIT ENTER
FWD REV
RESET
RUN
STOP
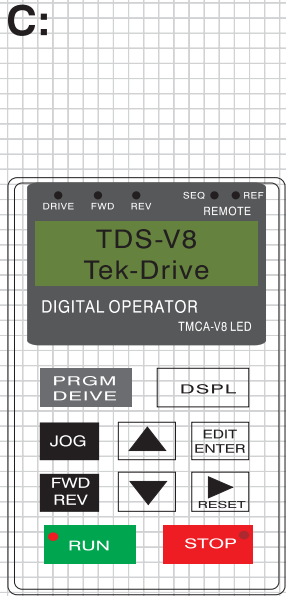
**Optional LCD
The same size as
LED Operator**

■ TDS Series

Series	Model	Capacity	Feature
F8	Economical	1Ø 220V: 0.4~1.5kW 3Ø 220V: 0.4~1.5kW	
V8	Standard	3Ø 220V: 0.75~75kW 3Ø 440V: 0.75~160kW	

TDS-V8 *Series*
(Sensorless Vector Control)

CE
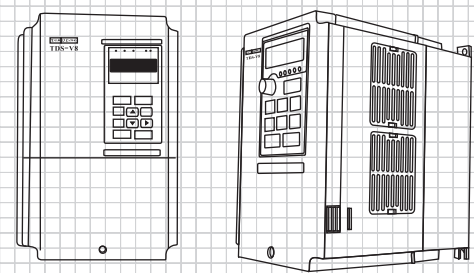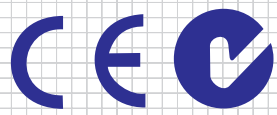
Feature

◆ **Sensorless Vector control with auto tuning system.**
  -The Autotune feature can be used to identify and store the important motor parameters for the sensorless Vector Control Mode.
◆ **Standard LED operator.**
  -Dialogic LCD operator (English/Chinese) with the function of parameters copying is optional.
◆ **Communication function:RS-485 installed (MODBUS protocol).**
◆ **Frequency control ranges from 0.1 Hz to 400Hz with resolution of 0.01Hz.**
  -frequency setting signal DC:0~10V / 4~20mA
◆ **Two set of analogical output interface. Each provides 11 individual analogical signals setting.**
◆ **PID Control, Simple PLC function, Energy saving, Multiple Frequency Pulse Output.**
◆ **Auto torque boost, slip compensation.**

Control Characteristics

Operation Mode	LED operator or LCD operator
Control Mode	Sine PWM
Frequency Control Ranges	0.1Hz~400Hz
Frequency Accuracy	Digital Command:±0.01%(-10~+40℃), Analog Command:±0.1% (25℃~±10℃)
Frequency Command Resolution	Digital Command:0.01Hz, Analog Command:0.06Hz/60Hz
Frequency Output Resolution	0.01Hz
Overload Resistibility	150% Rated Current for 1 Minute (CT)
Frequency Setting Signal	DC 0~10V/4 ~ 20mA
Acc./Dec. Time	0.1~6000.0 Sec. (Accel/Decel Time Con be Set Independent)
Voltage-Frequency Characteristics	V/F Curve Can be Set Through Parameter Setting (15 Types Fixed, 1 Type Flexible)
Regeneration Torque	100%, 2%ED, 5 Seconds
Basic Control Function	Auto torque Boost, Slip Compensation, Restart After Momentary Power Loss, Energy Saving, PID Control, Simple PLC function, Sersorless Vector Control
Extra Function	Up/Down Operation, Cumulative Power on & Operation Hour Memory, 4 Different Sets of Fault Status Record(Including Latest one), RS-485 (MODBUS Protocol), Multiple-Pulse Output Port, 2 Analog Output Ports etc.

Protection Function

Stall Prevention	Current Level Can be Selected During Acceleration and Constant Speed Running. During Deceleration, Stall Prevention Can be Enabled or Disabled.
Instantaneous overcurrent (OC)	Stopped if above 200% Rated Current
Inverter Overload Protection (OL2)	Stopped if above 150% Rated Current for 1 Minute
Motor OverloadProtection (OL1)	Electronic Overload Curve Protection
Overvoltage (OV)	Stop if VDC ≥ 410V(220 Class) or VDC ≥ 820V (440 Class)
Undervoltage (UV)	Stop if VDC ≤ 200V(220 Class) or VDC ≤ 400V (440 Class)
Momentary Power Loss Ride-Though time	≥ 15ms, stop otherwise
Overheat Protection (OH)	Protection by Thermistor
Grounding Protection (GF)	Protection by DC Current Sensor

TDS-V8 *Specification*

Input Voltage class		220VClass 3-Phase														
Model		0P7	1P5	2P2	3P7	5P5	7P5	011	015	018	022	030	037	045	055	075
Max Applicable Motor HP		1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
(CT)*	kw	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output Power	Rated Output Capacity (kVA)	2	2.7	4	7.5	10.1	13.7	20.6	27.4	34	41	54	68	78	95	128
	Rated Output Current (A)*	4.8	6.4	9.6	17.5	24	32	48	64	80	96	130	160	183	224	300
	Max. Output Voltage (V)	3-Phase 200V~230VAC(Proportional to input voltage)														
	Max. Output Frequency(Hz)	Through parameter setting (Max. 400Hz)														
Power Source	Rated Voltage Frequency	3-Phase 200V~230V, 50/60Hz														
	Allowable Voltage Fluctuation	-15%~+10%														
	Allowable Frequency Fluctuation	±5%														
	Medchanical Construction	Enclosed, Wall-Mounted Type(NEMA-1) IP20											IP00			
	Cooling	Self		Forced												
Approx mass(kg)		2.2		2.8		5.5		13.1		24.5				47	69	73

Input Voltage class		440V Class 3-Phase																		
Model		0P7	1P5	2P2	3P7	5P5	7P5	011	015	018	022	030	037	045	055	075	090	110	132	160
Max Applicable Motor HP		1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	175	215
(CT)*	kw	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160
Output Power	Rated Output Capacity (kVA)	2.1	2.7	4	7.5	10.1	13.7	20.6	27.4	34	41	54	68	82	110	138	180	195	210	260
	Rated Output Current (A)*	2.6	4.0	4.8	8	12	16	24	32	40	48	64	80	96	128	165	192	224	270	300
	Max. Output Voltage (V)	3-Phase 380V~460VAC(Proportional to input voltage)																		
	Max. Output Frequency(Hz)	Through parameter setting (Max. 400Hz)																		
Power Source	Rated Voltage Frequency	3-Phase 380V~460V, 50/60Hz																		
	Allowable Voltage Fluctuation	-15%~+10%																		
	Allowable Frequency Fluctuation	±5%																		
	Medchanical Construction	Enclosed, Wall-Mounted Type(NEMA-1) IP20												IP00						
	Cooling	Self		Forced																
Approx mass(kg)		2.2		2.8		5.5		13.1		24.5					50		69		73	

Dimensions

(A)220/440V 3.7 KW and Below — Fig(A)

(B)220/440V 5.5 KW and 7.5KW — Fig(B)

(C)220/440V 11 KW and Above — Fig(C)
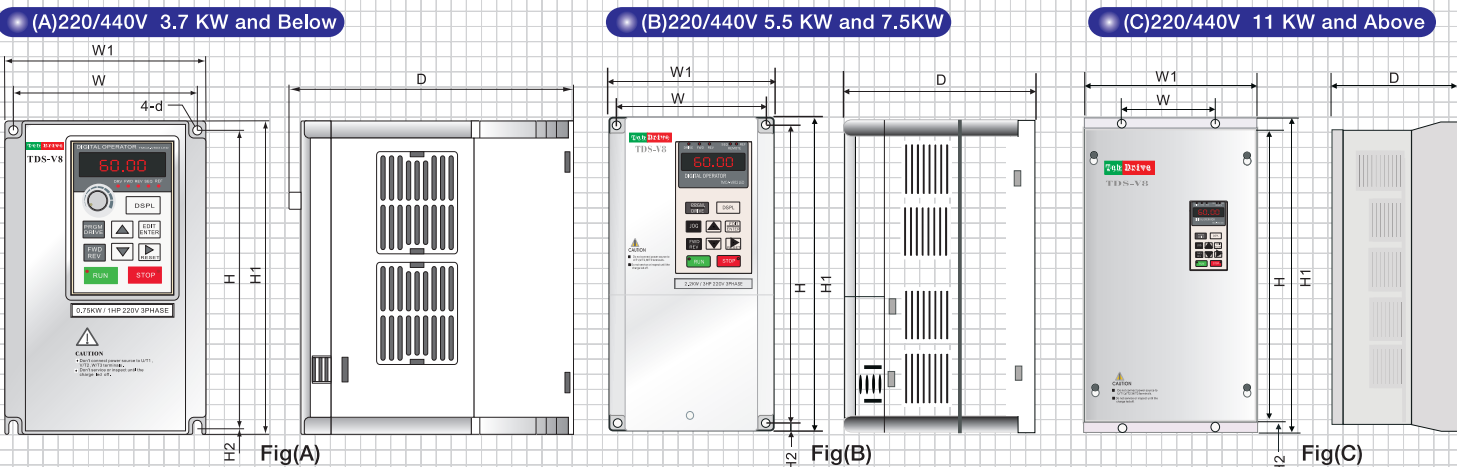
Voltage	Application Motor		Mounting Dimension (mm)				External Dimension (mm)			Fig
	Output(HP) / KW		W	H1	H2	d	W1	H1	D	
220V/ 440V	1HP / 0.75KW		108	173	5.5	5	118	184	168	Fig(A)
	2HP / 1.5KW									
	3HP / 2.2KW		124	214	5.5	6	137.5	225	161	
	5HP / 3.7KW									
	7.5HP / 5.5KW		174	281	8	8	191	297	197	Fig(B)
	10HP / 7.5KW									
	15HP / 11KW		140	394	8	8	244	410	202	Fig(C)
	20HP / 15KW									
	25HP / 18.5KW		170	479	12.5	10	287	504	273	
	30HP / 22KW									
	40HP / 30KW									
440V	50HP / 37KW									
	60HP / 45KW									
220V	50HP / 37KW		250	709	12.5	12	376	734	280	
	60HP / 45KW									
440V	75HP / 37KW									
	100HP / 75KW									
	125HP / 90KW									
220V	75HP / 55KW		430	843	13	15	533	870	280	
	100HP / 75KW									
440V	100HP / 110KW									
	175HP / 132KW									
	215HP / 160KW									

*Tek-Drive reserves the rights of changing the spec. For bigger capacity, please contact with Tek-Drive

■ *Description of Inverter model number*

TDS-F8-L 0P7 E3

TDS-F8
TekDrive Inverter series

Inverter Output
Capacity (KW)
0P4: 0.4 KW
0P7: 0.75 KW
1P5: 1.5 KW

blank: single phase
3:3 phase

Input Voltage class		220V Single phase / 3-Phase		
Model		**TDS-F8-L**		
		0P4	0P7	1P5
Max Applicable Motor HP		1/2	1	2
(CT)* kw		0.4	0.75	1.5
Output Power	Rated Output Capacity（kVA）	1.4	2	2.7
	Rated Output Current（A）*	3.2	4.8	6.4
	Max. Output Voltage（V）	3-Phase 200V~230VAC(Proportional to input voltage)		
	Max. Output Frequency(Hz)	Through parameter setting (Max. 400Hz)		
Power Source	Rated Voltage Frequency	Single Phase 200V~230V, 50/60Hz		
	Allowable Voltage Fluctuation	-15%~+10%		
	Allowable Frequency Fluctuation	±5%		
	Medchanical Construction	Enclosed, Wall-Mounted Type(NEMA-1) IP20		
	Cooling	Self		Forced
	Weight(kg)	1.2		
Control Characteristics	Operation Mode	LED operator		
	Control Mode	Sine PW/M		
	Frequency Control Ranges	0.1 Hz~400 Hz		
	Frequency Accuracy	Digital Command:±0.01%(-10~+40℃), Analog Command:±1% (25℃~±10℃)		
	Frequency Command Resolution	Digital Command:0.01Hz, Analog Command:0.06Hz/60Hz		
	Frequency Output Resolution	0.1Hz		
	Frequency Setting Signal	DC 0~10V/4 ~ 20mA		
	Acc./Dec. Time	0~999.9 Sec. (Accel/Decel Time Can be Set Individually)		
	Voltage-Frequency Characteristics	V/F Curve Can be Set Through Paramenter Setting		
	Basic Control Function	Auto torque Boost, Slip Compensation, Restart After Momentary Power Loss, Energy Saving, PID Control, Simple PLC function		
	Extra Funation	Up/Down Operation, Cumulative Power on & Operation Hour Memory, 4 Different Sets of Fault Status Record (Including Latest one), RS-485 (MODBUS Protocol), Multiple-Pulse Output Ports, 1 Analog Output.		

Dimension

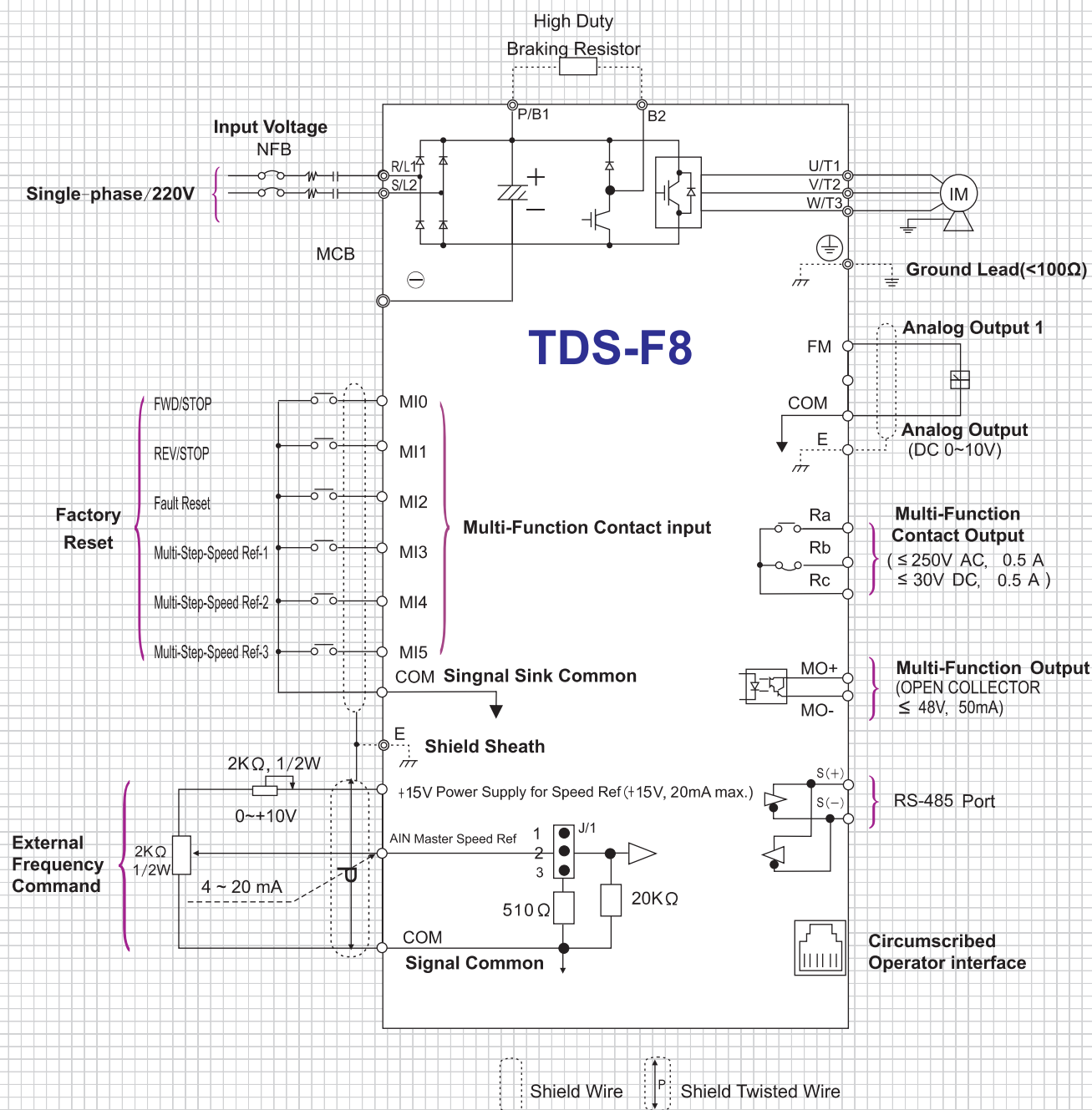| Voltage	Applicable Motor Output (HP/KW)	Mounting(mm)			External(mm)		
		W	H	D	W1	H1	D
220V 1ø/3ø	0.5HP/0.4KW	85	138	130	98	151	130
	1HP/0.75KW						
	2HP/1.5KW						

TDS-F8 *Series*

Wide Applications High Performance

Feature

◆ **PWM control**
◆ **Built-in MODBUS RS-485**
◆ **Built-in PID Function**
◆ **3 skip-Frequency setting**
◆ **2 ACC/DEC Time S curve setting**
◆ **Simple PLC function remote control**
◆ **Pump control automatic energy saving**
◆ **Pressure setting & constant pressure control.**

Basic Connection Diagram

High Duty
Braking Resistor

P/B1   B2

Input Voltage
NFB

R/L1
S/L2

U/T1
V/T2
W/T3

IM

Single-phase/220V

MCB

TDS-F8

Ground Lead(<100Ω)

FM   **Analog Output 1**

COM

E   **Analog Output**
(DC 0~10V)

FWD/STOP   MI0

REV/STOP   MI1

Fault Reset   MI2

Factory Reset

Multi-Step-Speed Ref-1   MI3   **Multi-Function Contact input**

Multi-Step-Speed Ref-2   MI4

Multi-Step-Speed Ref-3   MI5

COM **Singnal Sink Common**

Ra   **Multi-Function Contact Output**
Rb   (≤ 250V AC, 0.5 A
Rc   ≤ 30V DC, 0.5 A)

MO+   **Multi-Function Output**
(OPEN COLLECTOR
MO-   ≤ 48V, 50mA)

E **Shield Sheath**

2KΩ, 1/2W

0~+10V

+15V Power Supply for Speed Ref(+15V, 20mA max.)

S(+)

S(-)   **RS-485 Port**

External Frequency Command

2KΩ
1/2W

AIN Master Speed Ref

J/1
1
2
3

4 ~ 20 mA

510 Ω   20KΩ

COM
Signal Common

Circumscribed Operator interface

Shield Wire   P   Shield Twisted Wire
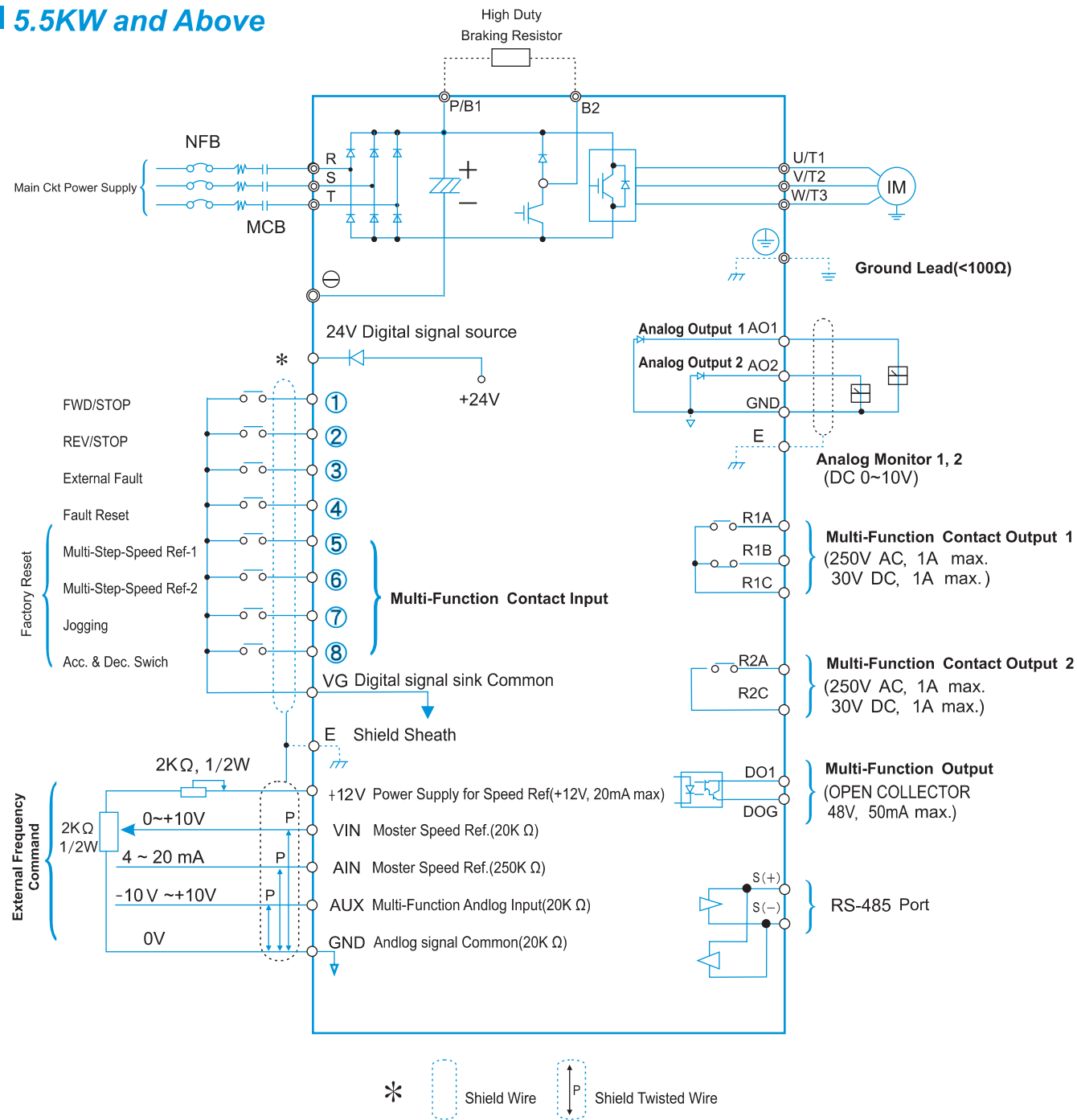
Inverter Standard Connection Diagram (◎ indicates the main circuit terminals and the sign, ◯ Indicates control circuit terminals)

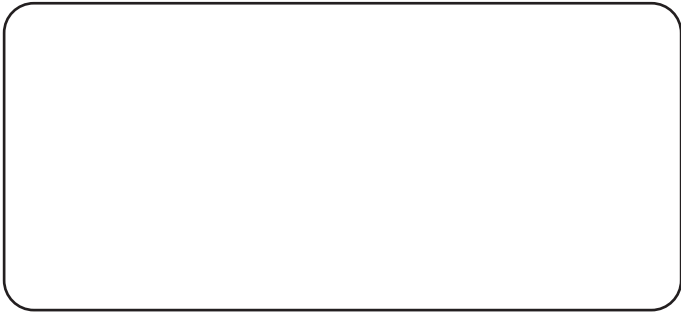(◎ indicates the main circuit terminals and the sign, ○ indicates control circuit terminals)。

■ 5.5KW and Above

High Duty
Braking Resistor

P/B1   B2

NFB

Main Ckt Power Supply

R
S
T

MCB

U/T1
V/T2
W/T3

IM

Ground Lead(<100Ω)

24V Digital signal source

*

+24V

Analog Output 1 AO1
Analog Output 2 AO2
GND
E

Analog Monitor 1, 2
(DC 0~10V)

FWD/STOP   ①
REV/STOP   ②
External Fault   ③
Fault Reset   ④
Multi-Step-Speed Ref-1 ⑤
Multi-Step-Speed Ref-2 ⑥
Jogging   ⑦
Acc. & Dec. Swich   ⑧

Factory Reset

Multi-Function Contact Input

VG Digital signal sink Common

E   Shield Sheath

R1A
R1B
R1C

Multi-Function Contact Output 1
(250V AC, 1A max.
30V DC, 1A max.)

R2A
R2C

Multi-Function Contact Output 2
(250V AC, 1A max.
30V DC, 1A max.)

2KΩ, 1/2W

External Frequency Command

2KΩ
1/2W

0~+10V   P
4 ~ 20 mA   P
-10 V ~+10V   P
0V

+12V Power Supply for Speed Ref(+12V, 20mA max)
VIN   Moster Speed Ref.(20K Ω)
AIN   Moster Speed Ref.(250K Ω)
AUX   Multi-Function Andlog Input(20K Ω)
GND   Andlog signal Common(20K Ω)

DO1
DOG

Multi-Function Output
(OPEN COLLECTOR
48V, 50mA max.)

S(+)
S(-)

RS-485 Port

* ⸱ Shield Wire   P ⸱ Shield Twisted Wire

1	2	3	4	5	6	7	8	AO1	GND	DO1	S(+)
E	24V	VG	+12V	AIN	VIN	AUX	AO2	GND	DOG	E	S(-)

R1A	R1B	R1C	R2A	R2C
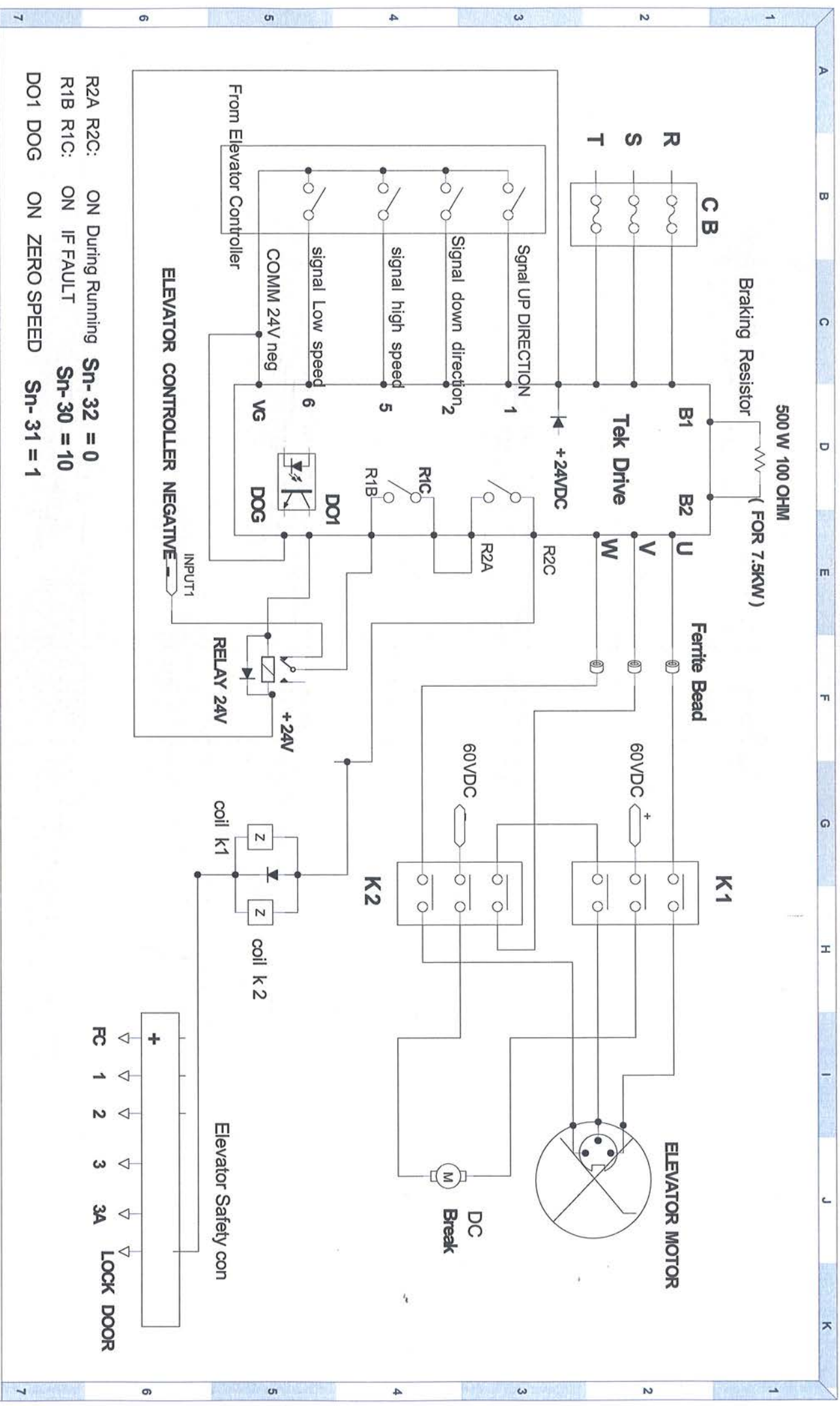
SABMATIC   TEK   Drive   connection with elevator   controller   2 speed

DO1 DOG   ON   ZERO SPEED   **Sn-31 = 1**

R1B R1C: ON   IF FAULT   **Sn-30 = 10**

R2A R2C: ON   During Running   **Sn-32 = 0**

ELEVATOR   CONTROLLER   NEGATIVE —

From Elevator Controller

COMM 24V neg   VG

signal Low speed   6

signal high speed   5

Signal down direction   2

Signal UP DIRECTION   1

INPUT1

DOG   DO1

R1B   R1C

R2A   R2C

RELAY 24V

+24V

Braking Resistor

500 W 100 OHM

(FOR 7.5KW)

+24VDC

C B

R
S
T

Tek Drive

B1   B2   U   V   W

Ferrite Bead

60VDC   60VDC

coil k1   coil k2

K2   K1

ELEVATOR MOTOR

DC Break

M

Elevator Safety con

FC   +   1   2   3   3A   LOCK DOOR