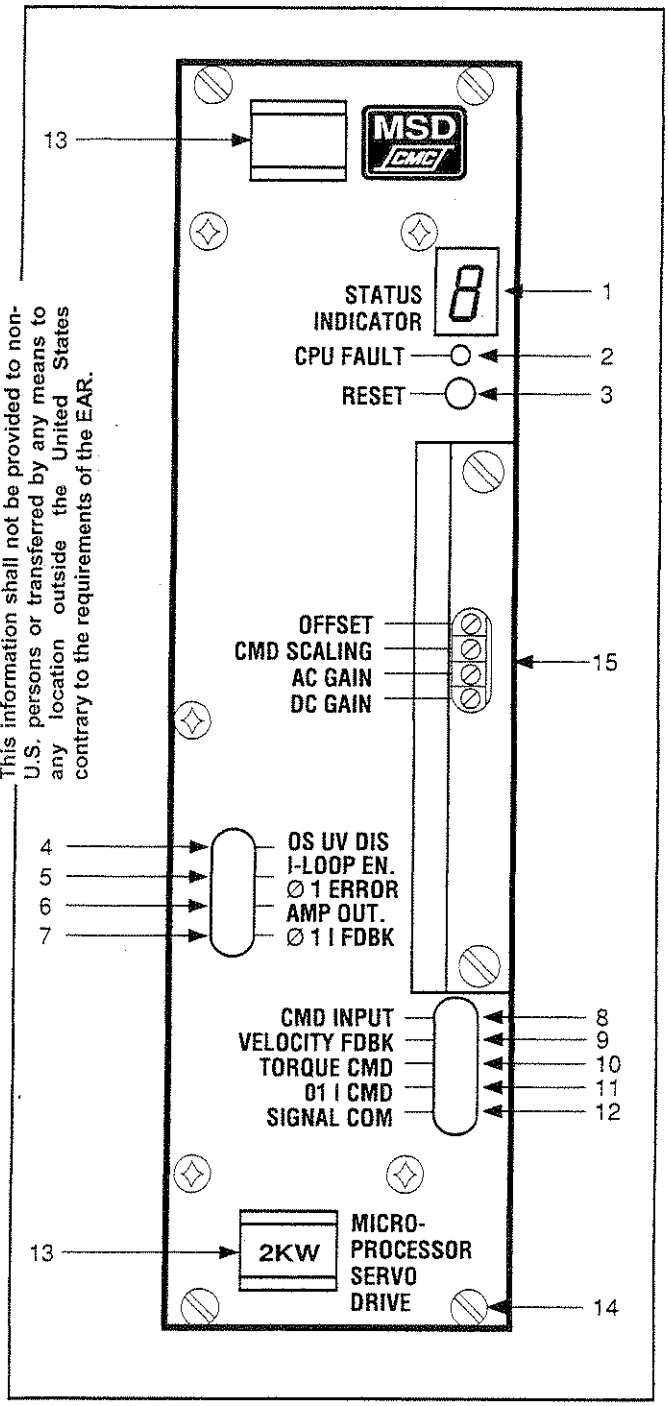
2.2 Amplifier features and locations

2.2.1 ACS3002 / ACS3004 / ACS3008 Amplifier features



Other Features	Location
Fault reset push button	3
Amplifier ejector handles	13
Four amplifier mounting screws (Loosen to remove amplifier)	14
Personality module (See section 2.3)	15

Status Indicators		Location
Status Code	Seven Segment Display	1
0	Drive enabled–No faults	
1	Illegal commutation sequence	
2	Exceeded continuous current vs. time limit	
3	Out of saturation fault (over current)	
4	Processor illegal interrupt	
5	Motor over speed fault	
7	Motor over temperature fault	
8	Drive disabled (solid) or inhibits low (flashing)	
9	Power-up feedback loss	
A	System enable fault (power supply problem)	
b	Processor execution out of bounds	
C	Processor memory check sum error	
d	Hall sensor input error	
E	Current foldback active	
F	False trigger on high speed interrupt	
L	DC BUS over current fault	
P	Heat sink over temperature fault	
U	Current loop board over temperature fault	
J	Velocity board over temperature fault	
Blank	Bias supply fault	
LED ON	**CPU watchdog timer fault**	2

Test Points	Signal Type*	Location
Out of saturation/under voltage disable: +12VDC = Normal; OV = Output stage disabled	D	4
Current loop enable: +12VDC = Enable; +5VDC = Disable	D	5
Phase 1 current error: ± 8VDC = ± I peak	A	6
Phase 1 current feedback: 4V peak = I peak	A	7
Customers command signal input scaling: 10VDC command = 8VDC at test point	A	8
Tachometer velocity feedback scaling: 0.366V at TP = 1000RPM at motor	A	9
Torque command: ± 8VDC = + I peak	A	10
Phase 1 current command: 4 VAC peak = Rated peak current	D	11
Signal common	A	12

* D = Discrete A = Analog

Terminal Block TB1 (motor power)		
T1		Motor stator phase 1
T2		Motor stator phase 2
T3		Motor stator phase 3
GND		Motor frame ground

Terminal Block TB2 (signal connector)		
1		Inhibit forward (CW motor rotation)
2		Inhibit common
3		Inhibit reverse (CCW motor rotation)
4		Fault reset (+)
5		Fault reset (−)
6		Enable input (+)
7		Enable input (−)
8		Fault output
9		O/T fault warning output
10		Current foldback active output
11		Fault common
12		+24VDC supply (total of 100mA max.)
13		24VDC supply common
14		No connection (key pin)
15		No connection (key pin)
16		Inverting command input
17		Non inverting command input
18		Signal common
19		Tachometer feedback (+)
20		Tachometer feedback (−)
21		Motor thermal switch (+)
22		Motor thermal switch (−)
23		S1 Hall sensor input
24		S2 Hall sensor input
25		S3 Hall sensor input
26		+12VDC Feedback power supply
27		Signal common
28		−12VDC Feedback power supply

Terminal Block TB3 (shunt resistor)
For connection of an optional shunt regulator resistor (See section 3.2.3 and 4.6)

Terminal Block TB4 (input power)*		
L1		AC power input phase 1
L2		AC power input phase 2
L3		AC power input phase 3
GND		Low impedance Earth ground

* Phase rotation is not important.

Terminal block TB5 (power supply connector)*		
1		24VDC supply common
2		+24VDC supply
3		Power supply fault reset (+)
4		Power supply fault reset (−)
5		No connection (key pin)
6		Power supply fault common
7		Shunt regulator fault output
8		DC BUS fault output
9		Over temperature fault output
10		Low AC line or bias supply fault output

* *If two SPS3008 power supplies are used then terminals 11-20 on PM4/RM4 chassis duplicate the functions of terminals 1-10 but for the second power supply. If one SPS3016 power supply is used then terminals 11-20 on TB5 are not used.*

Chassis features	Location
Mounting brackets (located on front of chassis on RM4 rack mount chassis)	1
Power supply DIN connectors	2
Cooling fan	3
Power supply signal terminal blocks (TB5)*	4
Amplifier signal terminal blocks (TB2)*	5
Amplifier DIN connectors	6
Motor power terminal blocks (TB1)*	7
AC line power terminal block (TB4)*	8
External shunt resistor terminal block (TB3)*	9
Back plane	10
Cooling fan supply line fuses (See section 5.4.2)	11

* *Mounted on rear of back plane for RM4 rack mounted chassis.*

Cooling fan supply line fuses
(See section 5.4.2)