Application 1:
Basic Speed Control

IDEAL FOR GENERAL PURPOSE APPLICATIONS NORMAL DUTY AND HEAVY
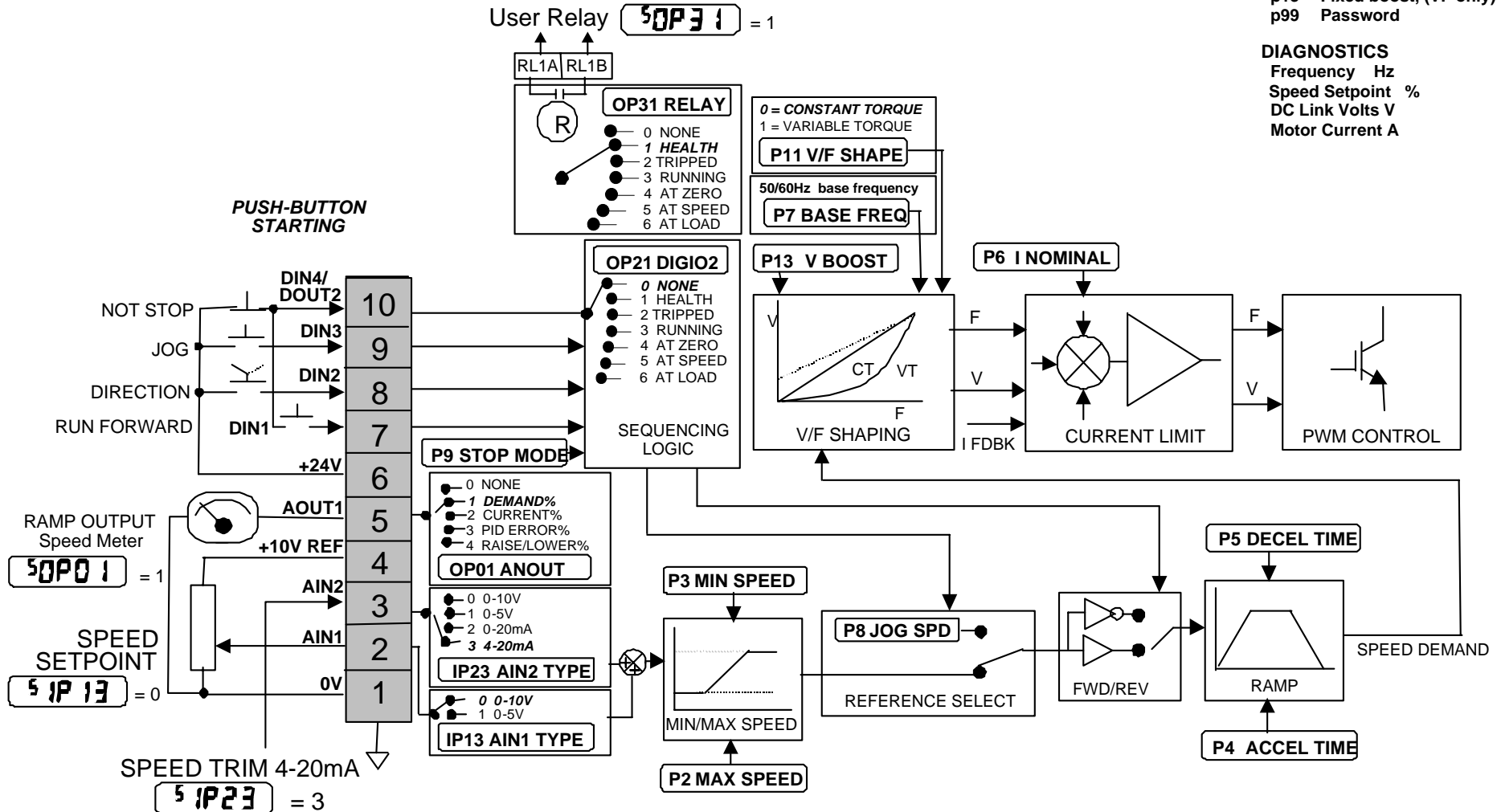
Speed

`P 1` = 1

Italic text indicates Default

STANDARD PARAMETERS
- p1 Application
- p2 Max speed
- p3 Min speed
- p4 Accel time
- p5 Decel time
- p6 Motor current
- p7 Base frequency
- p8 Jog setpoint
- p9 Run stop mode
- p11 V/F shape
- p12 Normal duty
- p13 Fixed boost, (VF only)
- p99 Password

DIAGNOSTICS
- Frequency Hz
- Speed Setpoint %
- DC Link Volts V
- Motor Current A

User Relay `5OP31` = 1

RL1A RL1B

OP31 RELAY
- 0 NONE
- *1 HEALTH*
- 2 TRIPPED
- 3 RUNNING
- 4 AT ZERO
- 5 AT SPEED
- 6 AT LOAD

0 = CONSTANT TORQUE
1 = VARIABLE TORQUE

P11 V/F SHAPE

50/60Hz base frequency
P7 BASE FREQ

OP21 DIGIO2
- *0 NONE*
- 1 HEALTH
- 2 TRIPPED
- 3 RUNNING
- 4 AT ZERO
- 5 AT SPEED
- 6 AT LOAD

SEQUENCING LOGIC

P13 V BOOST
P6 I NOMINAL

PUSH-BUTTON STARTING

NOT STOP
JOG
DIRECTION
RUN FORWARD

DIN4/DOUT2 — 10
DIN3 — 9
DIN2 — 8
DIN1 — 7
+24V — 6
AOUT1 — 5
+10V REF — 4
AIN2 — 3
AIN1 — 2
0V — 1

P9 STOP MODE

V/F SHAPING
CT VT
V F

CURRENT LIMIT
I FDBK

PWM CONTROL
F V

- 0 NONE
- *1 DEMAND%*
- 2 CURRENT%
- 3 PID ERROR%
- 4 RAISE/LOWER%

OP01 ANOUT

- 0 0-10V
- 1 0-5V
- 2 0-20mA
- *3 4-20mA*

IP23 AIN2 TYPE

- *0 0-10V*
- 1 0-5V

IP13 AIN1 TYPE

RAMP OUTPUT
Speed Meter
`5OP01` = 1

SPEED SETPOINT
`5IP13` = 0

SPEED TRIM 4-20mA
`5IP23` = 3

P3 MIN SPEED

MIN/MAX SPEED
P2 MAX SPEED

P8 JOG SPD
REFERENCE SELECT

FWD/REV

P5 DECEL TIME

RAMP
SPEED DEMAND
P4 ACCEL TIME

Application 1: Basic Speed Control (default)

This Application is ideal for general purpose applications. It provides push-button or switched start/stop control. The setpoint is the sum of the two analogue inputs AIN1 and AIN2, providing Speed Setpoint + Speed Trim capability.

SINGLE WIRE STARTING

Terminal	Label	Function	Notes
10	DIN4/DOUT2	NOT STOP	24V = RUN FWD & RUN REV signals latched, 0V = RUN FWD & RUN REV signals not latched
9	DIN3	JOG	24V = jog
8	DIN2	DIRECTION	0V = remote forward, 24V = remote reverse
7	DIN1	RUN FORWARD	24V = run forward
6	+24V	24V	
5	AOUT	RAMP OUTPUT	SOP01 = 1 DEMAND (0V = 0%, 10V = 100%)
4	+10V REF	+10V REF	
3	AIN2	SPEED TRIM	SIP23 = 3 4mA = 0%, 20mA = 100%
2	AIN1	SPEED SETPOINT	SIP13 = 0 0V = 0%, 10V = 100%
1	0V	0V	
RL1A / RL1B	DOUT3	RELAY SOURCE	SOP31 = 1 HEALTH i.e. 0V = not healthy

10k Speed Setpoint — A or V — default source = 4-20mA — User Relay

650 Series AC Drive