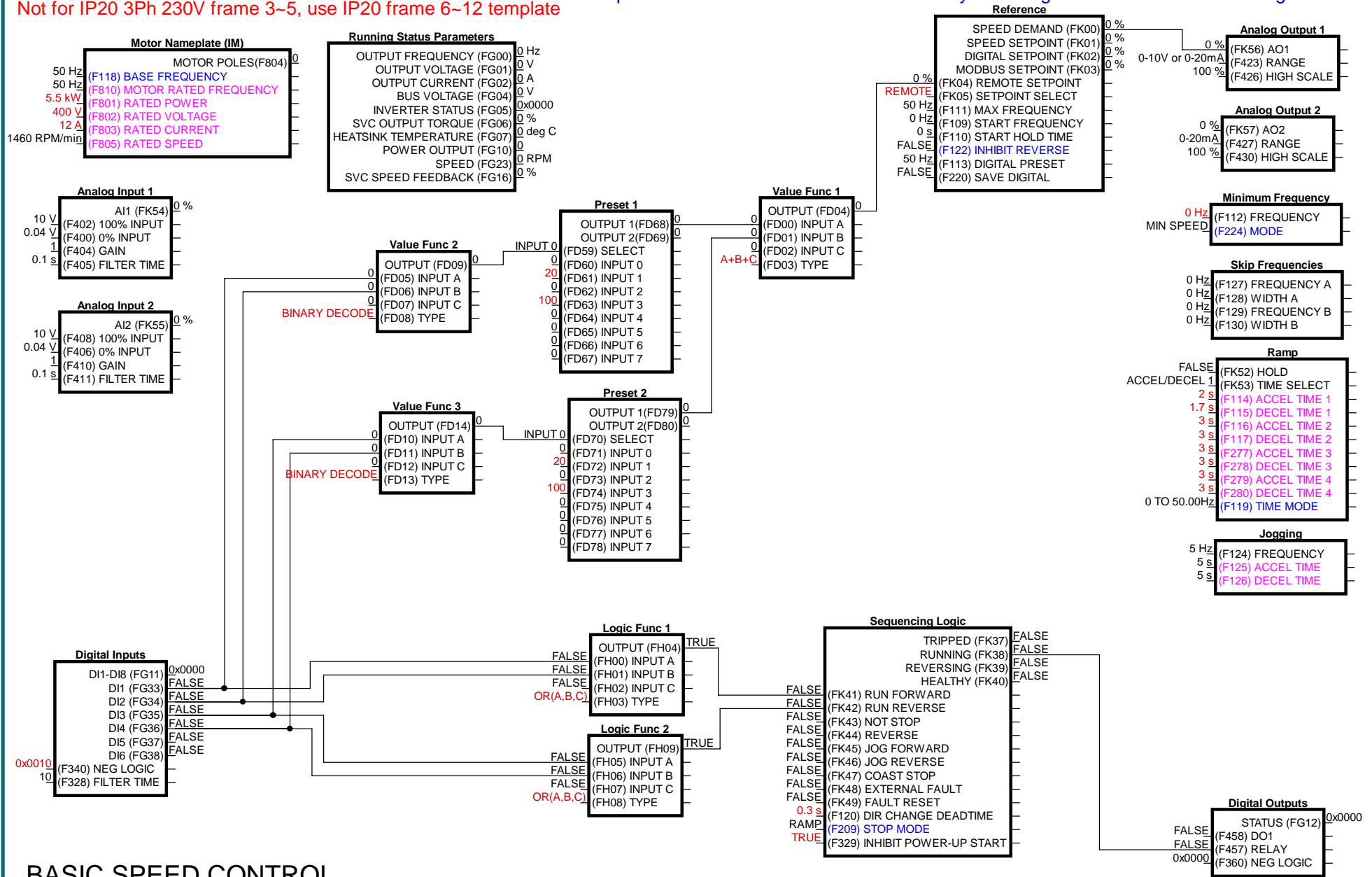


Not for IP20 3Ph 230V frame 3~5, use IP20 frame 6~12 template

Inputs in 'Frame Dependent Colour' are frame dependent, see manual for details.  
 Inputs in 'Restricted Access Colour' can only be changed when drive is not running.



BASIC SPEED CONTROL

DWN			SIZE A	DWG. NO.	RFA
CHK		/2/motyl.018	ISSUE		
APP			SCALE	SHEET	1 OF 6
EDIT	LOC				

# Motor Control

**Control Mode**

V/F  
DISABLED

(F106) CONTROL MODE  
(F800) AUTOTUNE MODE

**Induction Motor Data**

13.67 Ohm  
6.835 Ohm  
37.12 mH  
758.6 mH

(F806) STATOR RESISTANCE  
(F807) ROTOR RESISTANCE  
(F808) LEAKAGE INDUCTANCE  
(F809) MUTUAL INDUCTANCE

**Motor Nameplate (PMAC)**

192.4 mV/RPM  
56.6 mH  
108.1 mH  
4.57 Ohm

(F870) BACK ELECTROMOTIVE FORCE  
(F871) D-AXIS INDUCTANCE  
(F872) Q-AXIS INDUCTANCE  
(F873) STATOR RESISTANCE

**Pattern Generator**

4000 Hz  
TRUE  
0.3 s  
PWM ON

(F153) SWITCHING FREQUENCY  
(F159) RANDOM PATTERN  
(F812) DEFLUX DELAY  
(F859) BEHAVIOUR AT 0Hz

**Rotational to Linear Speed Conversion**

1  
0.001 m

(F133) DRIVE RATIO OF DRIVEN SYSTEM  
(F134) TRANSMISSION-WHEEL RADIUS

**V/F Current Boost**

FALSE  
0.3 A

(F641) ENABLE  
(F844) NO-LOAD CURRENT BOOST

**Voltage Control**

100 %  
DISABLED

(F152) VOLTAGE AT BASE FREQUENCY  
(F154) AUTOMATIC VOLTAGE MODE

**Slip Compensation**

0 %

(F136) SLIP COMPENSATION

**Advanced Control**

SVC  
5 %  
20 %  
0 %  
10 %  
1  
1  
50  
0.1  
0

(F861) PMAC STARTING MODE  
(F862) FREQUENCY SWITCHOVER POINT  
(F876) INJECTION CURRENT WITHOUT LOAD  
(F877) STARTING CURRENT  
(F878) INJECTION CURRENT COMPENSATION WITHOUT LOAD CUTOFF  
(F823) CURRENT LOOP Kp  
(F825) CURRENT LOOP Ki  
(F479) ESTIMATOR Kp  
(F480) ESTIMATOR Ki  
(F475) POSITION OFFSET

**V/F Fluxing**

LINEAR  
7  
1.5  
1 Hz  
0 %  
5 Hz  
13 %  
10 Hz  
24 %  
20 Hz  
45 %  
30 Hz  
63 %  
40 Hz  
81 %

(F137) V/F SHAPE  
(F138) LINEAR BOOST  
(F139) SQUARE BOOST  
(F140) FREQUENCY 1  
(F141) VOLTAGE 1  
(F142) FREQUENCY 2  
(F143) VOLTAGE 2  
(F144) FREQUENCY 3  
(F145) VOLTAGE 3  
(F146) FREQUENCY 4  
(F147) VOLTAGE 4  
(F148) FREQUENCY 5  
(F149) VOLTAGE 5  
(F150) FREQUENCY 6  
(F151) VOLTAGE 6

**Speed Loop Gains**

0.2  
0.2  
0.2  
0.2  
5 Hz  
50 Hz

(F813) SPEED LOOP KP1  
(F814) SPEED LOOP KI1  
(F815) SPEED LOOP KP2  
(F816) SPEED LOOP KI2  
(F817) KP KI SWITCHING FREQ 1  
(F818) KP KI SWITCHING FREQ 2

**Torque Control**

SPEED CONTROL

100 %  
10 %  
10 %  
10 %  
10 %  
200 %  
200 %  
0.1 s  
1 s  
10 %  
3  
3

(FC00) MODE  
(FC09) TORQUE REFERENCE  
(FC17) OFFSET TORQUE  
(FC23) FORWARD SPEED LIMIT  
(FC25) REVERSE SPEED LIMIT  
(FC30) DRIVING TORQUE LIMIT  
(FC35) RE-GENERATING TORQUE LIMIT  
(FC01) SWITCHOVER DELAY TIME  
(FC02) TORQUE ACCEL/DECEL TIME  
(FC16) OFFSET TORQUE CUT-OFF FREQUENCY  
(FC29) DRIVING TORQUE LIMIT COEFFICIENT  
(FC34) RE-GENERATING TORQUE LIMIT COEFFICIENT

DWN			SIZE A	DWG. NO.	RFA
CHK		/2/motyl.018	ISSUE		
APP			SCALE	SHEET	2 OF 6
EDIT	LOC				

# Trips and Protection

## Fault History

[NEWEST] FAULT 1 (F708)	NONE
FREQUENCY 1 (F711)	0 Hz
CURRENT 1 (F712)	0 A
VOLTAGE 1 (F713)	0 V
FAULT 2 (F709)	NONE
FREQUENCY 2 (F714)	0 Hz
CURRENT 2 (F715)	0 A
VOLTAGE 2 (F716)	0 V
[OLDEST] FAULT 3 (F710)	NONE
FREQUENCY 3 (F717)	0 Hz
CURRENT 3 (F718)	0 A
VOLTAGE 3 (F719)	0 V
OVER CURRENT COUNT (F720)	0
OVER CURRENT 1 COUNT (F739)	0
OVER VOLTAGE COUNT (F721)	0
OVER TEMPERATURE COUNT (F722)	0
OVERLOAD COUNT (F723)	0

## V/Hz Protection

VOLTAGE AND CURRENT	(F607) PROTECTION MODE
160 %	(F608) CURRENT LIMIT
130 %	(F609) VOLTAGE LIMIT
60 s	(F610) PROTECTION TIMEOUT

## Current Limit SVC

2	(F822) CURRENT LIMIT
---	----------------------

## Overcurrent 1 Protection

TRUE	(F737) ENABLE TRIP
2.5	(F738) TRIP LEVEL

## Motor Overload Protection

MODE 1	(F753) MODE
80 %	(F705) WARNING TIME
100 %	(F707) CURRENT LEVEL
60	(F750) MAX TIME

## Inverter Overload Protection

80 %	(F704) WARNING TIME
150 %	(F706) CURRENT LEVEL

## Analog Input Break Protection

DISABLED	(F741) MODE
50 %	(F742) TRIP THRESHOLD

## Input Phase Loss Protection

TRUE	(F724) ENABLE TRIP
0.5 s	(F728) FILTERING TIME CONSTANT

## Output Phase Loss Protection

FALSE	(F727) ENABLE TRIP
-------	--------------------

## Under Voltage Protection

200 V	(F732) TRIP THRESHOLD
5 s	(F729) FILTERING TIME CONSTANT

## Over Temperature Protection

TRUE	(F726) ENABLE TRIP
5 s	(F730) FILTERING TIME CONSTANT
80 %	(F745) WARNING THRESHOLD
TRUE	(F747) AUTO-ADJUST SWITCHING FREQ
RUNNING STATE	(F702) FAN CONTROL

# Auxiliary Functions

## DC Braking

DISABLED	BRAKING THRESHOLD (F611)
1 Hz	(F600) MODE
10 %	(F601) INITIAL FREQUENCY
10 %	(F602) STARTING EFFICIENCY
0.5 s	(F603) STOPPING EFFICIENCY
0.5 s	(F604) STARTING TIME
80 %	(F605) STOPPING TIME
TRUE	(F612) BRAKING DUTY RATIO
	(F622) AUTO DUTY RATIO

## Flycatching

DISABLED	(F613) FUNCTION
FROM MAX FREQUENCY	(F614) MODE
20	(F615) RATE
60 s	(F619) FAULT TIMEOUT
100	(F627) CURRENT LIMITING

## Auto-Start

FALSE	(F213) AFTER REPOWERED
FALSE	(F214) AFTER FAULT RESET
60 s	(F215) START DELAY TIME
0	(F216) MAX RETRIES
3 s	(F217) RESET DELAY TIME

## VDC Adjustment

DISABLED	(F631) MODE
380 V	(F632) TARGET VOLTAGE

## High-Frequency Performance

MODE 1	(F650) MODE
100	(F651) ENABLE FREQUENCY
95	(F652) DISABLE FREQUENCY

DWN			SIZE A	DWG. NO.	RFA
CHK		/2/motyl.018	ISSUE		
APP			SCALE	SHEET	3 OF 6
EDIT	LOC				

# Multi-stage Speed Control

**Multi-Stage Speed Control**

OUTPUT (FK50) 0 %

NONE (FK51) STAGE SELECT

15 STAGE (F500) TYPE

5 Hz (F504) FREQUENCY 1

FORWARD (F549) DIRECTION 1

3 s (F519) ACCEL TIME 1

2 s (F534) DECEL TIME 1

10 Hz (F505) FREQUENCY 2

FORWARD (F550) DIRECTION 2

3 s (F520) ACCEL TIME 2

2 s (F535) DECEL TIME 2

15 Hz (F506) FREQUENCY 3

FORWARD (F551) DIRECTION 3

3 s (F521) ACCEL TIME 3

2 s (F536) DECEL TIME 3

20 Hz (F507) FREQUENCY 4

FORWARD (F552) DIRECTION 4

3 s (F522) ACCEL TIME 4

2 s (F537) DECEL TIME 4

25 Hz (F508) FREQUENCY 5

FORWARD (F553) DIRECTION 5

3 s (F523) ACCEL TIME 5

2 s (F538) DECEL TIME 5

30 Hz (F509) FREQUENCY 6

FORWARD (F554) DIRECTION 6

3 s (F524) ACCEL TIME 6

2 s (F539) DECEL TIME 6

35 Hz (F510) FREQUENCY 7

FORWARD (F555) DIRECTION 7

3 s (F525) ACCEL TIME 7

2 s (F540) DECEL TIME 7

40 Hz (F511) FREQUENCY 8

FORWARD (F556) DIRECTION 8

3 s (F526) ACCEL TIME 8

2 s (F541) DECEL TIME 8

5 Hz (F512) FREQUENCY 9

FORWARD (F573) DIRECTION 9

3 s (F527) ACCEL TIME 9

2 s (F542) DECEL TIME 9

10 Hz (F513) FREQUENCY 10

FORWARD (F574) DIRECTION 10

3 s (F528) ACCEL TIME 10

2 s (F543) DECEL TIME 10

15 Hz (F514) FREQUENCY 11

FORWARD (F575) DIRECTION 11

3 s (F529) ACCEL TIME 11

2 s (F544) DECEL TIME 11

20 Hz (F515) FREQUENCY 12

FORWARD (F576) DIRECTION 12

3 s (F530) ACCEL TIME 12

2 s (F545) DECEL TIME 12

25 Hz (F516) FREQUENCY 13

FORWARD (F577) DIRECTION 13

3 s (F531) ACCEL TIME 13

2 s (F546) DECEL TIME 13

30 Hz (F517) FREQUENCY 14

FORWARD (F578) DIRECTION 14

3 s (F532) ACCEL TIME 14

2 s (F547) DECEL TIME 14

35 Hz (F518) FREQUENCY 15

FORWARD (F579) DIRECTION 15

3 s (F533) ACCEL TIME 15

2 s (F548) DECEL TIME 15

**Multi-Stage Auto Circulate**

(F501) STAGES

(F502) CYCLES

(F503) KEEP RUNNING

1 s (F557) RUNNING TIME 1

0 s (F565) STOP TIME 1

0 s (F558) RUNNING TIME 2

1 s (F566) STOP TIME 2

0 s (F559) RUNNING TIME 3

0 s (F567) STOP TIME 3

1 s (F560) RUNNING TIME 4

0 s (F568) STOP TIME 4

1 s (F561) RUNNING TIME 5

0 s (F569) STOP TIME 5

1 s (F562) RUNNING TIME 6

0 s (F570) STOP TIME 6

1 s (F563) RUNNING TIME 7

0 s (F571) STOP TIME 7

1 s (F564) RUNNING TIME 8

0 s (F572) STOP TIME 8

# Other

**Raise/Lower**

OUTPUT (FK28) 0 %

FALSE (FK29) RAISE

FALSE (FK30) LOWER

FALSE (FK31) RESET

10 s (FK32) RAMP TIME

100 % (FK33) MAX VALUE

0 % (FK34) MIN VALUE

0 % (FK35) RESET VALUE

**PID**

OUTPUT (FK10) 0 %

ERROR (FK11) 0 %

LIMITING (FK12) FALSE

0 % (FK13) SETPOINT

0 % (FK14) FEEDBACK

0 % (FK15) FEED FORWARD

1 (FK16) FEEDBACK GAIN

0 (FK17) FEED FORWARD GAIN

0.1 (FK18) P GAIN

1 (FK19) I GAIN

0 (FK20) D GAIN

300 % (FK21) LIMIT

-300 % (FK22) LOW LIMIT

TRUE (FK23) SYMMETRIC LIMITS

FALSE (FK24) ENABLE PID

FALSE (FK25) INTEGRAL DEFEAT

0.05 s (FK26) D FILTER TC

1 (FK27) OUTPUT SCALING

**Analog Input 1 Scaling**

A1 RAW (F331) 0 %

2 (F403) HIGH SCALE

1 (F401) LOW SCALE

0 V (F418) ZERO DEADZONE

STRAIGHT LINE (F460) LINEARISATION

2 V (F462) VOLTAGE 1

1.2 (F463) SCALE 1

5 V (F464) VOLTAGE 2

1.5 (F465) SCALE 2

8 V (F466) VOLTAGE 3

1.8 (F467) SCALE 3

**Analog Input 2 Scaling**

A12 RAW (F332) 0 %

2 (F409) HIGH SCALE

1 (F407) LOW SCALE

0 V (F419) ZERO DEADZONE

STRAIGHT LINE (F461) LINEARISATION

2 V (F468) VOLTAGE 1

1.2 (F469) SCALE 1

5 V (F470) VOLTAGE 2

1.5 (F471) SCALE 2

8 V (F472) VOLTAGE 3

1.8 (F473) SCALE 3

**Analog Input Filter**

(F437) WIDTH 10

**Keypad**

0x000E (F131) RUN DISPLAY ITEMS

0x000B (F132) STOP DISPLAY ITEMS

DISABLED (F643) MULTI-FUNCTION KEY

100 s (F646) BACKLIGHT TIME

REMOTE IF FITTED (F421) SELECT

**Modbus**

ACTIVITY (F908) 0

0 s (F905) TIMEOUT

TRUE (F219) DISABLE SAVE

**Password**

FALSE (F107) ENABLE

8 (F108) SET

**Clone**

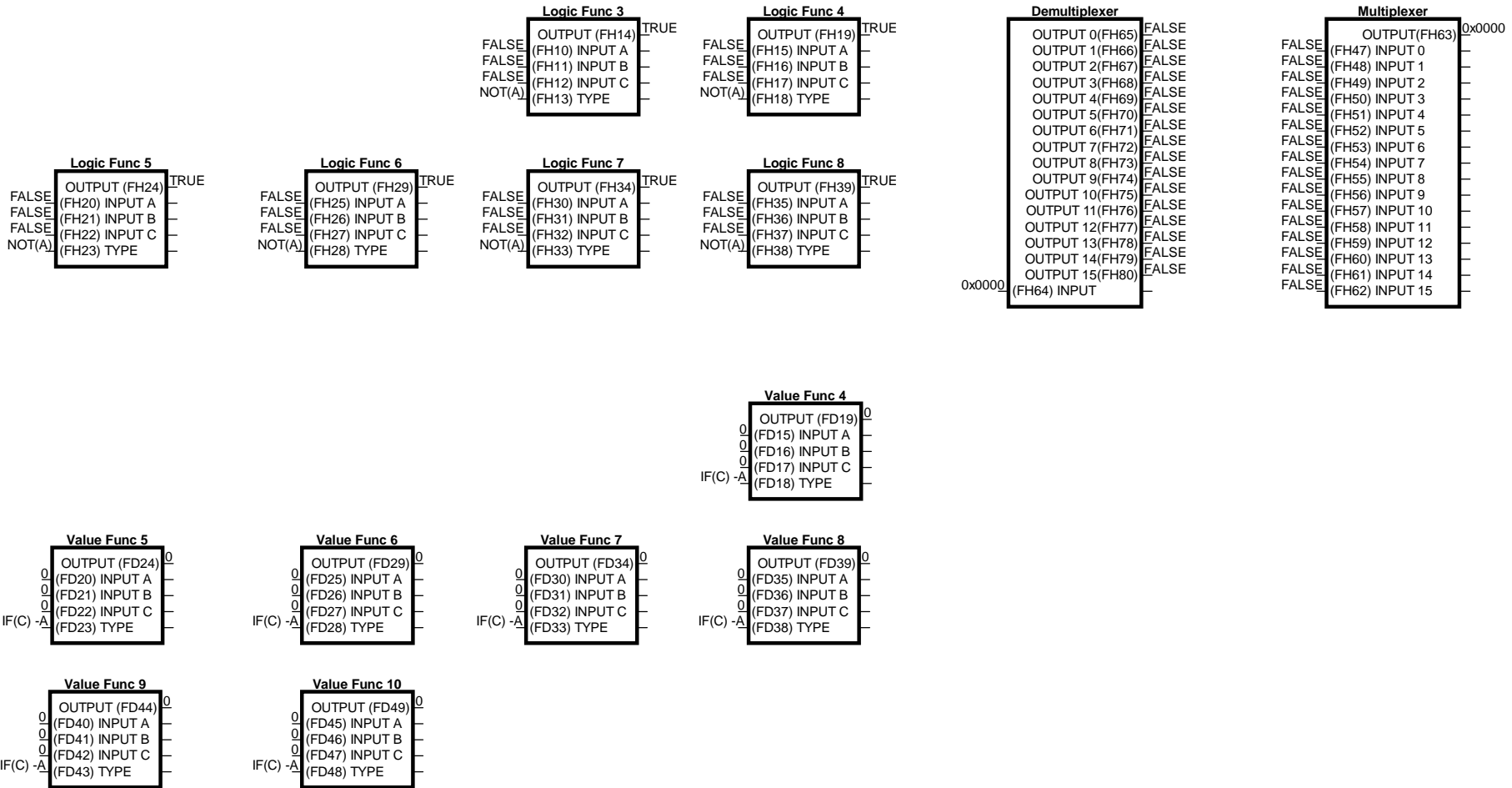
SAME ONLY (F638) LOAD ALLOW

TRUE (F640) EXCLUDE MOTOR PARAMS

CODE (F639) 0

DWN			SIZE A	DWG. NO.	RFA
CHK		/2/motyl.018	ISSUE		
APP			SCALE	SHEET	4 OF 6
EDIT	LOC				

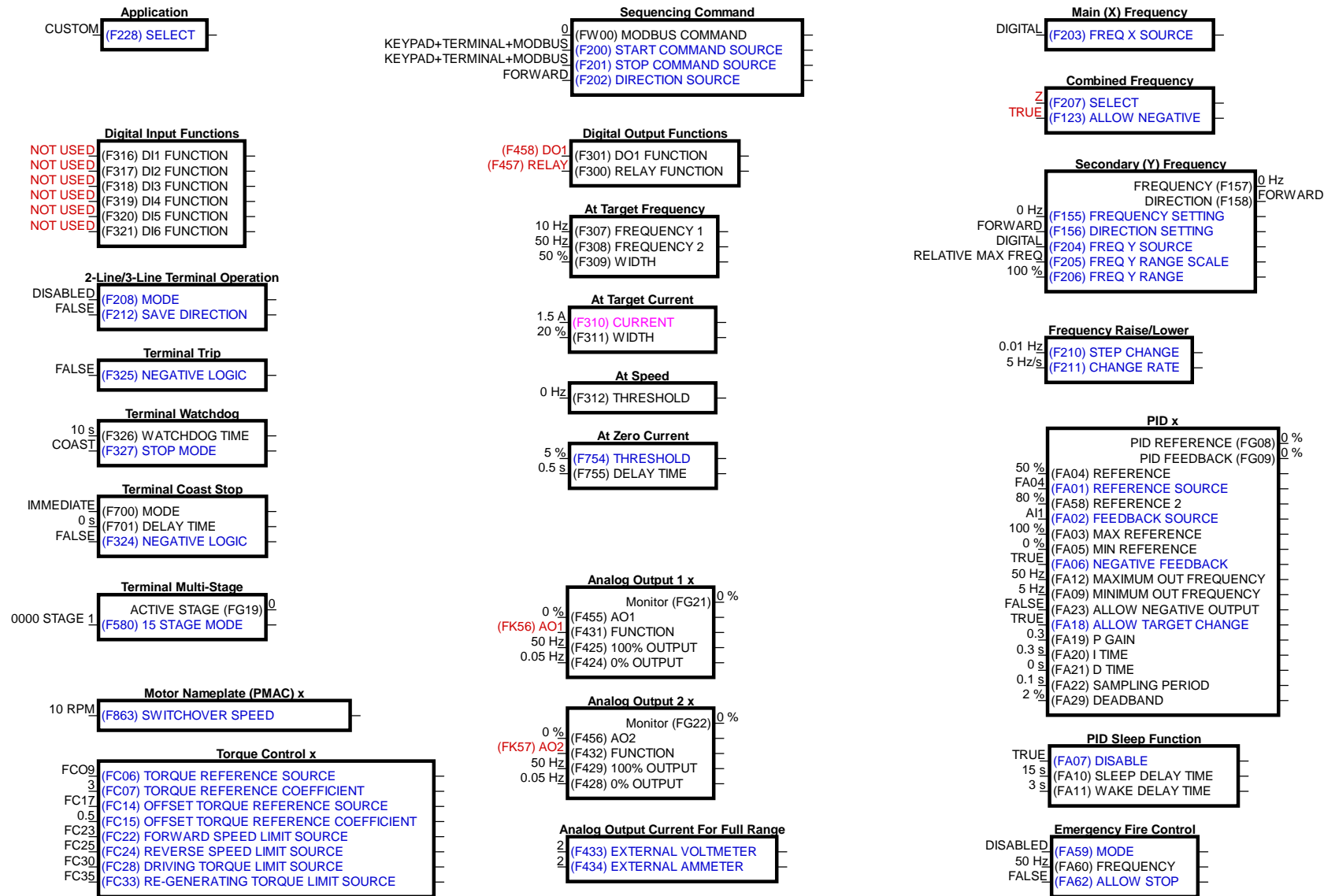
# General Purpose Blocks



DWN		SIZE A	DWG. NO.	RFA
CHK		/2/motyl.018		ISSUE
APP		SCALE	SHEET	5 OF 6
EDIT	LOC			

# Deprecated Blocks

Avoid using these blocks, their functionality has been superseded and only are included in order to provide backward compatibility.



DWN			SIZE A	DWG. NO.	RFA
CHK		/2/motyl.018	ISSUE		
APP			SCALE	SHEET	6 OF 6
EDIT	LOC				