



**CHANGES TO DRIVE PARAMETERS:**

PARAMETER	PARAMETER FUNCTION	PARAMETER SETTING
9904	MOTOR CTRL MODE	1 = VECTOR
1002	EXT-2	DI-6
1102	EXT-1/EXT-2 SELECT	DI-5
1106	REF 2 SELECT	AI-2
1107	REF 2 MIN	0.1%
1108	REF 2 MAX	1.0%
1401	RELAY OUTPUT 1	SUPRV 2 OVER
1404	RELAY 1: ON DELAY	1800 to 3600 SEC
1402	RELAY OUTPUT 2	SUPRV 1 OVER
1407	RELAY 2: OFF DELAY	5 SECONDS
2002	MAXIMUM SPEED	SAME as VALUE in 9908
2101	START MODE	1 = AUTO
2104	DC HOLD CONTROL	1 = DC HOLD
2105	DC HOLD SPEED	50 RPM
2106	DC HOLD CURRENT	10%
3201	SUPRV 1 PARAMETER	EXT 1 REF
3202	SUPRV 1 LIMIT LO	40 RPM
3203	SUPRV 1 LIMIT HIGH	50 RPM
3204	SUPRV 2 PARAMETER	CTRL PACE
3205	SUPRV 2 LIMIT LO	1 (EXT-1)
3206	SUPRV 2 LIMIT HIGH	2 (EXT-2)
3415	SIGNAL 3 PARAM	EXT REF 1
3418	SIGNAL 3 DISP FORM	DIRECT
<b>CHANGES TO E-CLIPSE PARAMETERS</b>		
1616	DISPLAY ALARMS	0 = DISABLE

**SEQUENCE OF OPERATION:**

**DRIVE MODE:**  
**AUTO MODE:** a run command is initiated via digital or serial input. A speed reference (from either source) is also sent. Once that speed level exceeds about 3.0% (50 rpm), RO-2 turns on: this disables the HEATER function by changing operation to EXT-1. Operation is normal.  
**HAND MODE** selection on the VFD keypad will deliver normal operation - with one exception. Any speed reference of 50 rpm (or less) will operation the motor in Heater Mode. OFF MODE on the keypad disables Heater mode.  
**HEATER MODE:**  
 Once EXT REF 1 drops below 45 rpm, RO-2 turns off: this enables DI-5. A small OFF time delay is programmed to discourage nuisance changes. The EXT 2 functions are selected. EXT REF 2 range is extremely limited to keep the speed reference in the correct for heat mode.  
 RO-1 changes state when EXT-2 is selected. A time delay 30 to 60 minutes is programmed before the relay turns on; this allows for brief off periods without exercising the motor heat function. After the time delay, DI-6 is enable to turn ON the VFD. The speed reference is less than 45 rpm, this force operation of the motor at ZERO speed; this runs a trickle charge through all windings in the motor. sustained operation typically causes a 10°C rise in the motor temperature - over ambient conditions.  
 Operation continues as detailed until the BAS speed command exceeds 50 rpm. That reference initiates the AUTO steps listed above.

- NOTES:
1. APPLICATION MACRO: "E-CLIPSE BYPASS" DEFAULT.
  2. CONSULT USER'S MANUAL FOR I/O RATINGS.
  3. REPLACE JUMPER WITH NORMALLY CLOSED SAFETY INTERLOCK CONTACT AS NEEDED.
  4. COPPER WIRE RATED FOR 60°C INSULATION IF RATED LESS THAN 100A OR 75°C IF RATED 100A OR MORE MUST BE USED.
  5. REFER TO USER MANUAL FOR OPERATION, CONNECTIONS AND TIGHTENING TORQUE VALUES.
  6. CUSTOMER REQUIRED TO PROVIDE BRANCH CIRCUIT PROTECTION AND DISCONNECT MEANS PER NEC AND LOCAL CODE.

Rev	Description	Date	Appd	DC	Description	Project Name	Approved	Checked	Prepared	Resp. Dept.	Date	Reference number	Sheet
C	MAM	12/06/12			ACH550 CONTROL WIRING DIAGRAM + MOTOR HEAT FUNCTION	ACH550 DRIVE & BYPASS E-CLIPSE BYPASS NO MIN SPEED	M. MOERSFELDER	JMM	MAM	ABB DISCRETE AUTOMATION AND MOTION	08-03-2009	BXVXR0018-CC	A
Based On: DELETE GROUP 12 (CONSTANT SPEED) PARAMETERS													