Eaton-Williams Ltd

QUALITAIR

APPLICATION MANUAL

ICC COOLING STORAGE UNIT
ICC/ICU SYSTEM

Eaton-Williams Ltd
Station Road – Edenbridge – Kent – TN8 6EG
Tel: +44 (0)1732 866066 Fax +44(0)1732 866653
www.eaton-williams.com

0142117A

ICC / ICU SYSTEM APPLICATION MANUAL

1. SYSTEM INTRODUCTION

1.1 General

The ICC/ICU system is a range of low temperature direct expansion (D.X.) split systems with indoor coolers and outdoor condensing units. As standard the units are cooling only but the option of fitting an electric heater is available.

1.2 Indoor Unit

Indoor Cooling Units have stainless steel casings and are suitable for wall or ceiling mounting. There are air inlets on both sides of the unit with discharge on the front of the unit. Power connections are located on the right hand side, with the refrigerant connections located on the left-hand side. The coil is fitted with a de-ice system as standard and the on/off switch and temperature adjustment control are located on the front of the unit.

1.3 Indoor unit Options

Electro-mechanical or electronic controls are available, as is an Electric heater for applications that require heating.

1.4 Outdoor Unit

The outdoor ICU unit should be located on a horizontal surface or alternatively on a vertical wall using the Qualitair wall mounting bracket option kit. Power and refrigerant connections are located at the right hand end of the unit.

The ICU unit is supplied from the factory with a low pressure switch, high pressure switch, short cycle timer and head pressure fan speed controller fitted as standard.

1.5 Outdoor Unit options

Electrical isolator and wall mount bracket options are available.

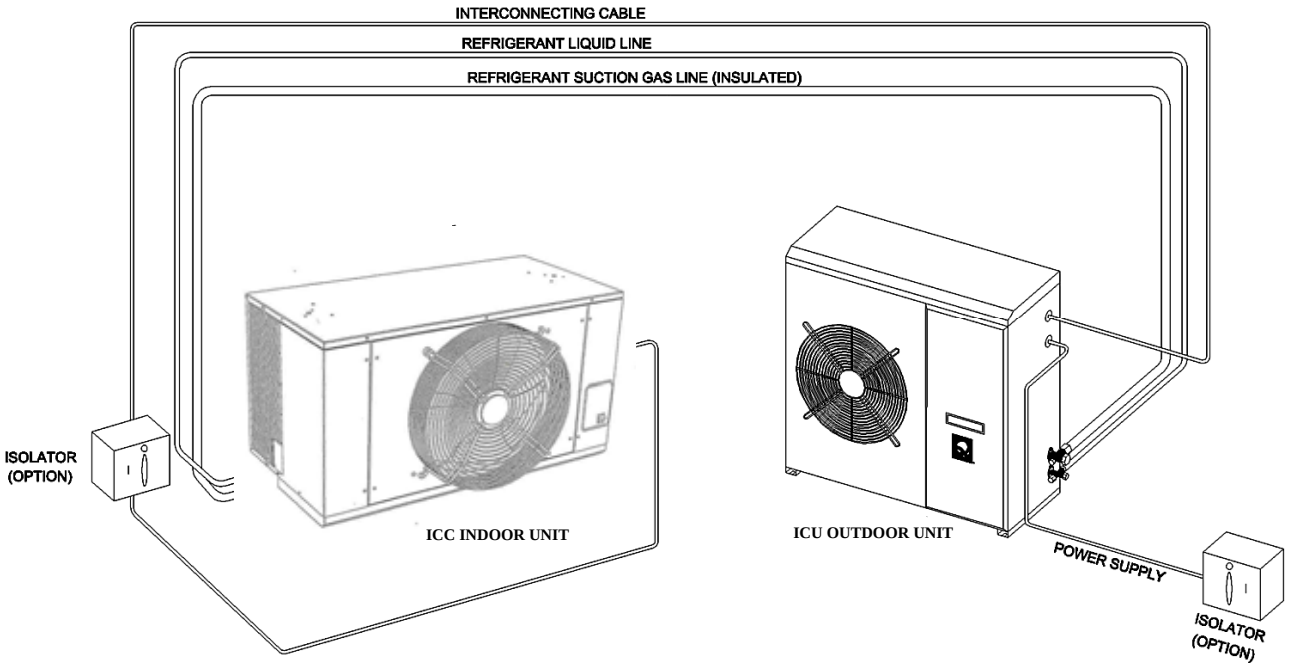


Figure 1.1 – ICC/ICU SYSTEM LAYOUT

2. SYSTEM CONFIGURATION

2.1 Part Numbers

Each ICC cellar cooler is matched up to an ICU condensing unit as summarised below. Please note that the part numbers refer to the base specification unit.

Table 2.1 – A/C Units
Low Temperature Storage Systems 1 Phase

ICC Electro Mechanical	ICC Electronic	ICC Electronic & Heater	ICC Electromech & Heater	ICU Condenser
ICCm 25-J70632	ICCe 25-J70630	ICCe 25 – J70633	ICCm25 - J70631	ICU30 – J90733
ICCm 35-J70642	ICCe 35-J70640	ICCe 35 – J70643	ICCm35 - J70641	ICU40 – J90743
ICCm 50-J70662	ICCe 50-J70660	ICCe 50 – J70663	ICCm50 - J70661	ICU55 – J90763
ICCm 55-J70662	ICCe 55-J70660	ICCe 55 – J70663	ICCm55 - J70661	ICU80 – J90783
ICCm 60-J70682	ICCe 60-J70680	ICCe 60 - J70683	ICCm60 - J70681	ICU80 – J90783
ICCm 70-J70692	ICCe 70-J70690	ICCe 70 – J70693	ICCm70 - J70691	ICU80 – J90783

Low Temperature Storage Systems 3 Phase

ICC Electro Mechanical	ICC Electronic	ICC Electronic & Heater	ICC Electromech & Heater	ICU Condenser
ICCm 55-J70662	ICCe 55-J70660	ICCe 55 – J70633	ICCm55 - J70661	ICU80 – J90784
ICCm 60-J70682	ICCe 60-J70680	ICCe 60 – J70683	ICCm60 - J70681	ICU80 – J90784
ICCm 70-J70692	ICCe 70-J70690	ICCe 70 – J70693	ICCm70 - J70691	ICU80 – J90784

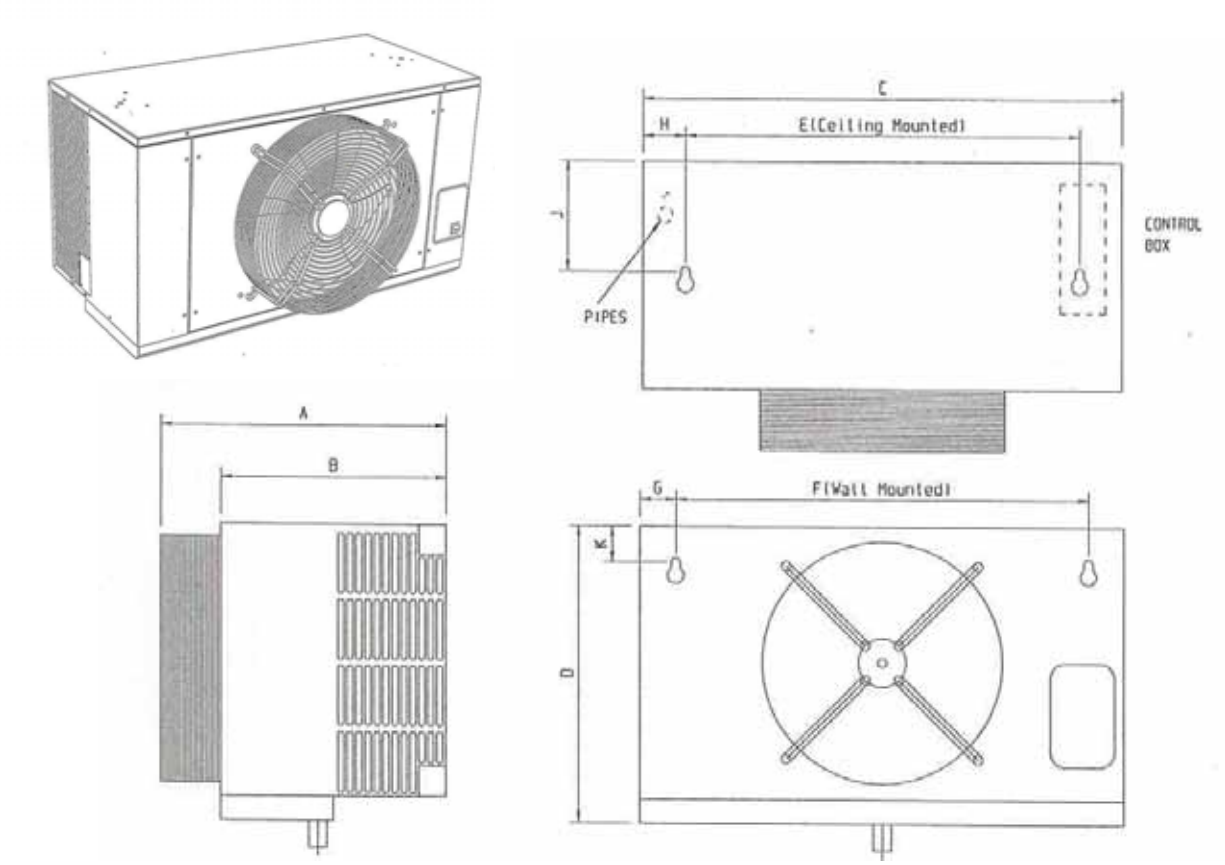
Ordering Notes

As standard the indoor ICC unit is supplied as a cooling only unit complete with controls.
As standard the outdoor ICU condensing unit is supplied complete with temperature operated fan speed controller, low pressure switch, high pressure switch, winter start and 3-minute delay timer.
ICU30 & 40 units are also fitted with a crankcase heater.
The indoor ICC cellar cooler and outdoor ICU condensing units are ordered as separate part numbers.
The ICU 80 is available in single phase (230v) or 3 phase (400v) configuration.

Ordering details:

Step 1 select indoor unit	e.g.	ICCm 35	J70642
Step 2 select matching outdoor unit	e.g.	ICU 40	J90743

2.2 ICC DIMENSIONAL DETAILS



	ICC 25	ICC 35	ICC 50	ICC 60	ICC 70
A	475	475	475	525	525
B	390	390	390	440	440
C	805	805	805	865	865
D	450	450	450	525	525
E	680	680	680	740	740
F	680	680	680	680	680
G	62	62	62	92	92
H	62	62	62	32	32
J	239	239	239	289	289
K	50	50	50	50	50

Figure 2.1 – ICC Positioning

2.3 ICU DIMENSIONAL DETAILS & CLEARANCES

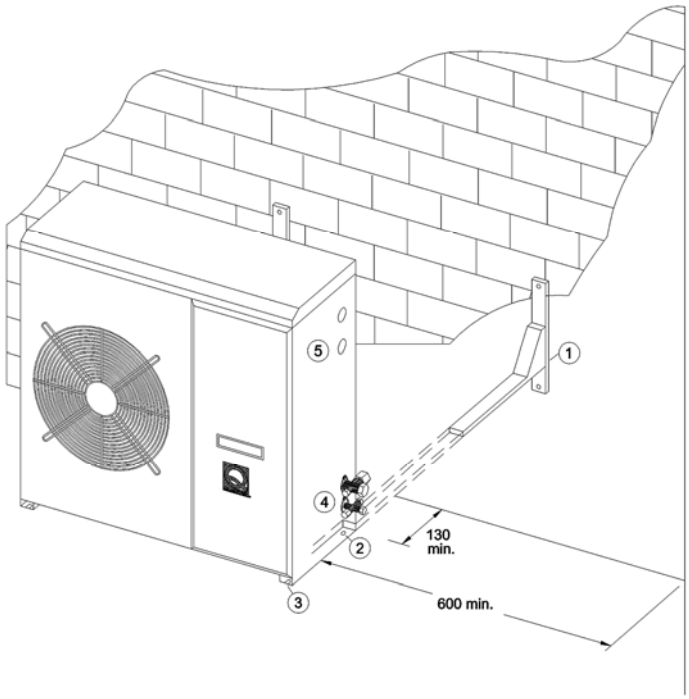


Figure 2.2 – ICU Unit Positioning

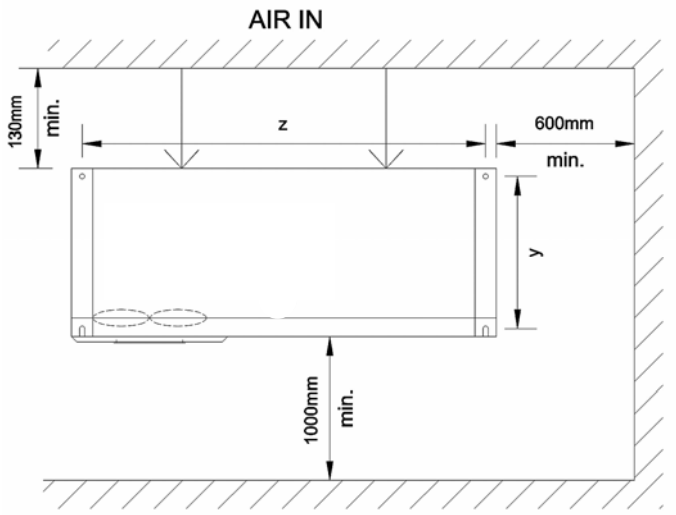


Figure 2.3 – ICU Unit Fixing

	ICU 30	ICU 40	ICU 55	ICU 80
Width mm	720	720	800	800
Height mm	610	610	765	765
Depth mm	250	250	320	320
Weight kg	42	42	60	64
Dim 'y' mm	220	220	290	290
Dim 'Z' mm	670	670	750	750

3. SYSTEM OPTIONS

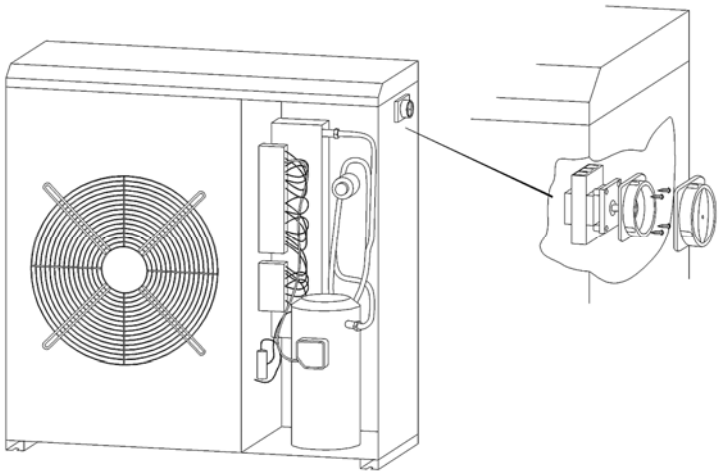
3.1 ICC/ICU System Options

In order to configure the basic unit to meet most customer requirements, options are available for the ICC/ICU system. The basic unit would be supplied, with any option (in kit form) fitted at site by installer.

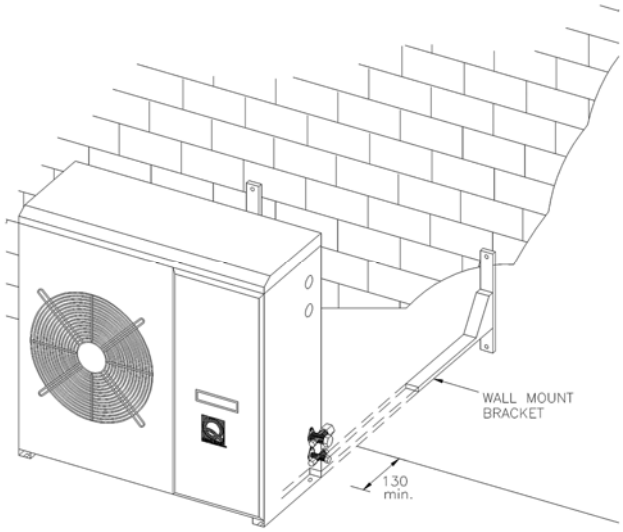
3.2 ICU Option Part Numbers

Option Description	ICU 30	ICU 40	ICU 55	ICU 80
Outdoor electrical isolator	J972434	J972434	J972434	J972434
Wall mount brackets	J972435	J972435	J972636	J972636
Crankcase Heater	STD	STD	J213100127	J213100127

OUTDOOR ELECTRICAL ISOLATOR (J972434)
This option is used to electrically isolate the unit locally as may be required under electrical safety regulations and fits onto the right hand end of the ICU unit. Compliance with local standards and regulations is the responsibility of the installer.



WALL MOUNTED BRACKETS
ICU 30/40 = J972435
ICU 55/80 = J972636
Where it is necessary to mount the ICU unit on a vertical wall, this option facilitates ease of mounting.



4. SYSTEM DUTY RATINGS

Listed below are the cooling ratings for the ICC / ICU system.

Indoor Unit	**ICC25**	**ICC35**	**ICC50**	**ICC50**	**ICC60**	**ICC70**
Outdoor Unit	**ICU30**	**ICU40**	**ICU55**	**ICU80**	**ICU80**	**ICU80**
	Cooling Duties kW @ 12.7°Cdb / 10°Cwb					
Cooling Duty	2.4	3.55	4.45	5.75	6.1	6.8
S H R	75%	75%	75%	75%	75%	75%
	Optional Electric Heater kW					
Heating Duty	3.0	3.0	3.0	3.0	4.0	4.0

5. SYSTEM PERFORMANCE DETAILS INDOOR UNIT

Listed below are the ancillary performance details for the ICC cooler.

Indoor Unit	**ICC25**	**ICC35**	**ICC55**	**ICC60**	**ICC70**
Electric heater duty (kW)	3.0	3.0	3.0	4.0	4.0
Air volume flow (m3/s)	0.51	0.62	0.62	0.73	0.95
Air throw (m)	7.5	12	12	12	13
Indoor unit noise level NR	52	57	57	57	59
Unit height (mm)	450	450	450	525	525
Unit width (mm)	805	805	805	805	805
Unit depth (mm)	475	475	475	525	525
Unit weight (kg)	31	31	31	34	35

Notes
i) Noise levels at 2m free field.

6. SYSTEM PERFORMANCE DETAILS OUTDOOR UNIT

Listed below are the ancillary performance details for the ICU condensing unit.

Outdoor Unit	**ICU30**	**ICU40**	**ICU55**	**ICU80**
Air volume flow (m3/s)	0.43	0.54	0.54	0.68
Outdoor Unit noise level NR	61	48	47	53
Unit height (mm)	610	610	765	765
Unit width (mm)	720	720	800	800
Unit depth (mm)	250	250	320	320
Unit weight	42	42	60	64

Notes
i) Noise levels at 3m free field.

7. MECHNICAL INSTALLATION DETAILS

Indoor Unit	**ICC25**	**ICC35**	**ICC50**	**ICC60**	**ICC70**
Outdoor Unit	**ICU30**	**ICU40**	**ICU55**	**ICU80**	**ICU80**
	Unit Refrigerant Connection (“)				
Refrig. Liquid Connection (“)	1/4	1/4	1/4	3/8	3/8
Refrig. Suction Connection (“)	1/2	5/8	5/8	3/4	3/4
	Refrigerant Pipe Sizes (“)				
	Refrigerant pipes sizes are tabled on the following page				
	Ancillary Information				
Liquid line insulation (“) *	Optional 3/8	Optional 3/8	Optional 3/8	Optional 3/8	Optional 3/8
Suction line insulation (“)	Yes 3/8	Yes 3/8	Yes 3/8	Yes 3/8	Yes 3/8
	Condensate Connections				
Connection type	Hose connector	Hose connector	Hose connector	Hose connector	Hose connector
Connection size (“)	3/4	3/4	3/4	3/4	3/4

* Hot areas must be avoided when routing liquid lines. Consideration should be given to separate insulation lines to prevent heat absorption.

7. MECHNICAL INSTALLATION DETAILS CONT

Refrigerant Pipe Sizes (“)

Table A Horizontal or Downflow application (Suction Line)

Based on 5psi (0.35bar) Pressure drop

Line Length (m)

	Table A	5	10	15	20	25	30	35	40	45	50	60	70	80	90	100
ICU30	Suction	3/8”	½”	½”	½”	½”	5/8”									¾”
	Liquid	¼”	¼”	¼”	¼”	¼”	¼”	DO NOT USE THIS AREA								
ICU40	Suction	½”	½”	½”	5/8”	5/8”	5/8”					¾”				
	Liquid	¼”	¼”	¼”	¼”	¼”	¼”	DO NOT USE THIS AREA								
ICU55	Suction	½”	5/8”	5/8”	5/8”	5/8”	¾”	¾”	¾”	¾”	¾”	¾”	7/8”	7/8”	7/8”	7/8”
	Liquid	3/8”	3/8”	3/8”	3/8”	3/8”	3/8”	½”	½”	½”	½”	½”	½”	½”	½”	½”
ICU80	Suction	5/8”	5/8”	¾”	¾”	¾”	¾”	7/8”	7/8”	7/8”	7/8”	7/8”	7/8”	7/8”	7/8”	11/8”
	Liquid	3/8”	3/8”	3/8”	3/8”	½”	½”	½”	½”	½”	½”	½”	½”	½”	½”	½”

Table B Upflow application (Suction Line)

	Table B	Max Size	Max Lift	Additional Oil	R407c – kg Additional Charge
ICU30	Suction	3/8”	5	None	>5m = 25g/m (¼” Liquid)
ICU40	Suction	½”	15	None	>5m = 25g/m (¼” Liquid)
ICU55	Suction	½”	8	None	>5m = 40g/m (3/8” Liquid) >30m = 105g/m (1/2” liquid)
ICU80	Suction	¾”	30	None	>5m = 40g/m (3/8” Liquid) >30m = 105g/m (1/2” liquid)

Note:

a) = DO NOT USE IN THIS AREA.

b) Crankcase heaters are required where system charge exceeds 4.5kg and DOES NOT contain an accumulator.

c) Maximum pipe run stated in Table A, must include the reduction allowance (equivalent length) for vertical lifts and fittings indicated in Tables b.

Table C General fitting losses - equivalent straight lengths in metres.

Fitting	Pipe Size					
	3/8”	½”	5/8”	¾”	7/8”	11/8”
45° Bend	0.12	0.15	0.18	0.21	0.24	0.30
90° Bend Short Radius	0.37	0.43	0.49	0.55	0.61	0.79
90° Bend Long Radius	0.24	0.27	0.30	0.37	0.43	0.52
180° Bend Short Radius	0.73	0.91	1.10	1.28	1.46	1.83
180° Bend Long Radius	0.46	0.55	0.64	0.76	0.85	1.07
90° Elbow	0.67	0.85	1.04	1.25	1.46	1.89
Oil Trap	0.74	0.86	0.98	1.10	1.22	1.58

8. ELECTRICAL INSTALLATION DETAILS

Indoor Unit	**ICC25**	**ICC35**	**ICC50**	**ICC60**	**ICC70**
Matching Outdoor Unit	**ICU30**	**ICU40**	**ICU55**	**ICU80**	**ICU80**
	Indoor Unit Electrical Data (Amps)				
Indoor Fan	0.44	0.57	0.57	0.57	0.7
Heater Option	13	13	13	18	18
Controls	0.2	0.2	0.2	0.2	0.2
	Outdoor Unit Electrical Data (A/Phase)				
Outdoor Fan	0.3	0.7	0.7	0.7	0.7
Compressor	2.5	6.2	10.9	15.2(5.1)*	15.2(5.1)*
	System Full Load Current (A/Phase)				
Cooling Only Unit	3.44	7.7	10.5	16.6(6.7)*	16.6(6.7)*
Cooling + Electric Heating Unit	13.6	13.8	13.8	18.7(18.7)*	18.7(18.7)*
	System Fuse Rating (A/Phase): HRC				
Cooling Only Unit	10	10	16	20(10)*	20(10)*
Cooling Only unit with heaters	16	16	16	20(20)*	20(20)*
	Unit Internal Fuse Rating				
Outdoor unit fan motor fuse	3.15	3.15	3.15	3.15	3.15
	Power Supply				
System Power Supply	1 PH	1 PH	1 PH	1 PH (3ph)	1 PH (3ph)
Power Supply Cable	3 core	3 core	3 core	3(5)* Core	3(5)* Core
	Unit Interconnecting Cables				
Cooling Only Unit	4 core	4 core	4 core	4 core	4 core
Cooling only unit with heaters	4 core	4 core	4 core	4 core	4 core
	Electrical Connections				
Type	Screwed Terminal Blocks	Screwed Terminal Blocks	Screwed Terminal Blocks	Screwed Terminal Blocks	Screwed Terminal Blocks

* Figures in brackets are for 3 phase condensing unit

9. INDOOR UNIT COMPONENT SPECIFICATION

Indoor Unit	ICC25	ICC35	ICC50	ICC60	ICC70
Matching Outdoor Unit	ICU30	ICU40	ICU55/80	ICU80	ICU80
No. of Motors	1	1	1	1	1
	Indoor Fan & Motor Details				
Motor Rating	230v/1ph/50Hz				
Motor Power W	102	130	130	130	160
Fan Type	Axial	Axial	Axial	Axial	Axial
Impeller Diameter	315mm	350mm	350mm	350mm	400mm
	Evaporator Details				
Tube Material	Copper	Copper	Copper	Copper	Copper
Fin Material	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Fin Pitching	8 fpi	8 fpi	8 fpi	8 fpi	8 fpi
No. of Circuits	1	3	3	4	4
Finned Length	582	582	582	640	640
No. of rows deep	2	4	4	4	4
No. of Tubes High	17	17	17	20	20
Holding Charge	Nitrogen	Nitrogen	Nitrogen	Nitrogen	Nitrogen
	Refrigerant				
Type	R407c	R407c	R407c	R407c	R407c
	De-Ice Thermostat (Elec Mech Only)				
Type	Thermostatic	Thermostatic	Thermostatic	Thermostatic	Thermostatic
	Indoor Expansion Device				
Type	TEV	TEV	TEV	TEV	TEV
Location	ICC Unit	ICC Unit	ICC Unit	ICC Unit	ICC Unit
	Indoor De-ice Thermostat				
Cut-out temperature *	-1 ±1	-1 ±1	-1 ±1	-1 ±1	-1 ±1
Cut-in Temperature *	+10 ±1	+10 ±1	+10 ±1	+10 ±1	+10 ±1
	Unit Construction				
Casing	Stainless	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

* When electronic controller fitted, this function is provided on a time cycle.

10. INDOOR UNIT OPTIONS SPECIFICATION

Indoor Unit	ICC25	ICC35	ICC50	ICC60	ICC70
	Controller				
Electro Mechanical	8 to 23°C	8 to 23°C	8 to 23°C	8 to 23°C	8 to 23°C
Electronic	4 to 23°C	4 to 23°C	4 to 23°C	4 to 23°C	4 to 23°C
	Electrical Heater				
Construction	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Voltage	230v	230v	230v	230v	230v
Thermal Switch cut-out temp	54°C	54°C	54°C	54°C	54°C
Thermal Switch reset temp	46°C	46°C	46°C	46°C	46°C

11. OUTDOOR UNIT COMPONENT SPECIFICATION

Outdoor Unit	ICU30	ICU40	ICU55	ICU80
	Outdoor Fan & Motor Details			
Motor Rating	230v/1PH/50Hz	230v/1PH/50Hz	230v/1PH/50Hz	230v/1PH/50Hz
Motor Power	65w	165w	165w	165w
Capacitor Rating	2 mF	2mF	2mF	4mF
Fan Type	Axial	Axial	Axial	Axial
Impeller diameter	350mm	350mm	350mm	450mm
	Condenser Details			
Tube Material	Copper	Copper	Copper	Copper
Fin Material	Aluminium	Aluminium	Aluminium	Aluminium
Fin Pitching	12 fpi (2.1mm)	12 fpi (2.1mm)	12 fpi (2.1mm)	12 fpi (2.1mm)
No. of Circuits	1	2	3	3
Finned Length	500mm	500mm	550mm	550mm
No. of Tubes High	22	22	28	28
No. of Rows Deep	1	2	3	3
Refrigerant Holding Charge (R407c)	600g	1100g	1600g	1900g
	Suction and Liquid Connections			
Device	Shut Off Valve	Shut Off Valve	Shut Off Valve	Shut Off Valve
Connection	Flare	Flare	Flare	Flare
	Electrical Connections			
Type	Screwed Terminal Block	Screwed Terminal Block	Screwed Terminal Block	Screwed Terminal Block
	Compressor Details			
Type	Hermetic Rotary	Hermetic Rotary	Hermetic Scroll	Hermetic Scroll
Run Capacitor (1ph only)	25mF	30mF	40mF	50mF
Low Pressure Switch	7/22Psig Auto Reset			
High Pressure Switch	300/400Psig Auto Reset			
Winter Start	2 Min Delay			
Delay Start Timer	3 Min Delay			
Crankcase heater	60W	60W	N/A	N/A
	Low Ambient Fan Speed Controller			
Sensing Element	Pressure	Pressure	Pressure	Pressure
Hard start	30 seconds	30 seconds	30 seconds	30 seconds
Minimum Speed Voltage	105 volts	105 volts	105 volts	105 volts
	Unit Construction			
Casing	Painted Steel	Painted Steel	Painted Steel	Painted Steel

12. OUTDOOR UNIT OPTIONS SPECIFICATION

Outdoor Unit	ICU30	ICU40	ICU55	ICU80
	Outdoor Electrical Isolator			
Rating	32A	32A	32A	32A
Lockable	Yes	Yes	Yes	Yes
	Wall Mount Brackets			
Material	Galv. Steel	Galv. Steel	Galv. Steel	Galv. Steel

13. SYSTEM WRITTEN SPECIFICATION

13.1 ICC Indoor Unit Specification

The indoor unit shall be a Qualitair ICC direct expansion cooler matched to a Qualitair ICU direct expansion condensing unit.
The unit size shall be ICC25/ICC35/ICC50/ICC60/ICC70 single phase or ICC50/ICC60/ICC70 three phase system*.
Supply ICC cassette with/without * Electric heater option

13.2 ICU Outdoor Unit Specification

The ICU condensing unit shall be supplied with the following option kits for site fitting:
Supply ICU condensing unit with/without * Acoustic jacket
Supply ICU condensing unit with/without * Outdoor electrical isolator option
Supply ICU condensing unit with/without * Wall mount brackets

* delete as appropriate
*1 Note:- As standard, U.K. models are fitted with a low ambient fan speed controller and a low and high pressure switch, start/short cycle timers, winter start.

13.3 ICC Indoor Unit Specification Compliance

The ICC cooler unit shall comply with the following specification:

Casing

The casing shall be manufactured using high quality 0.7mm stainless steel.

Evaporator cooling coil
The evaporator coil shall be constructed from refrigeration quality copper tubes with mechanically bonded aluminium fins to provide efficient heat transfer.

Condensate Tray

The Condensate tray shall be manufactured from stainless steel.

Expansion Device

The expansion device shall be an externally equalised Thermostatic Expansion Valve (TEV).
The fan shall be an energy efficient sickle bladed axial type with the impeller orientated for sucking configuration, complete with fan guard.

Refrigerant Connections

The refrigerant terminations shall be OD copper connections.

De-ice control

The unit shall have de-ice controls fitted on the evaporator.

13. SYSTEM WRITTEN SPECIFICATION CONT

13.4 ICU Outdoor Unit Specification Compliance

The ICU condensing unit shall comply with the following specification:

Casing

The casing shall be manufactured using high quality 0.9mm painted galvanised sheet steel.

Condenser Cooling Coil

The condenser coil shall be constructed from refrigeration quality copper tubes with mechanically bonded aluminium fins to provide efficient heat transfer.

Fan

The fan shall be an energy efficient sickle bladed axial type with the impeller orientated for sucking configuration complete with fan guard.

Compressor

The unit shall be fitted with a hermetic rotary or scroll compressor.

Shut-off valves

The unit shall be fitted with refrigerant shut-off valves complete with Shraeder test point.

Refrigerant Charge

The unit shall contain a refrigerant charge suitable for a 5 metre pipe run.

Low Ambient Controls

The unit shall be factory fitted with the fan speed controller, low pressure switch, high pressure switch, winter start and start delay timer.

Crankcase Heater

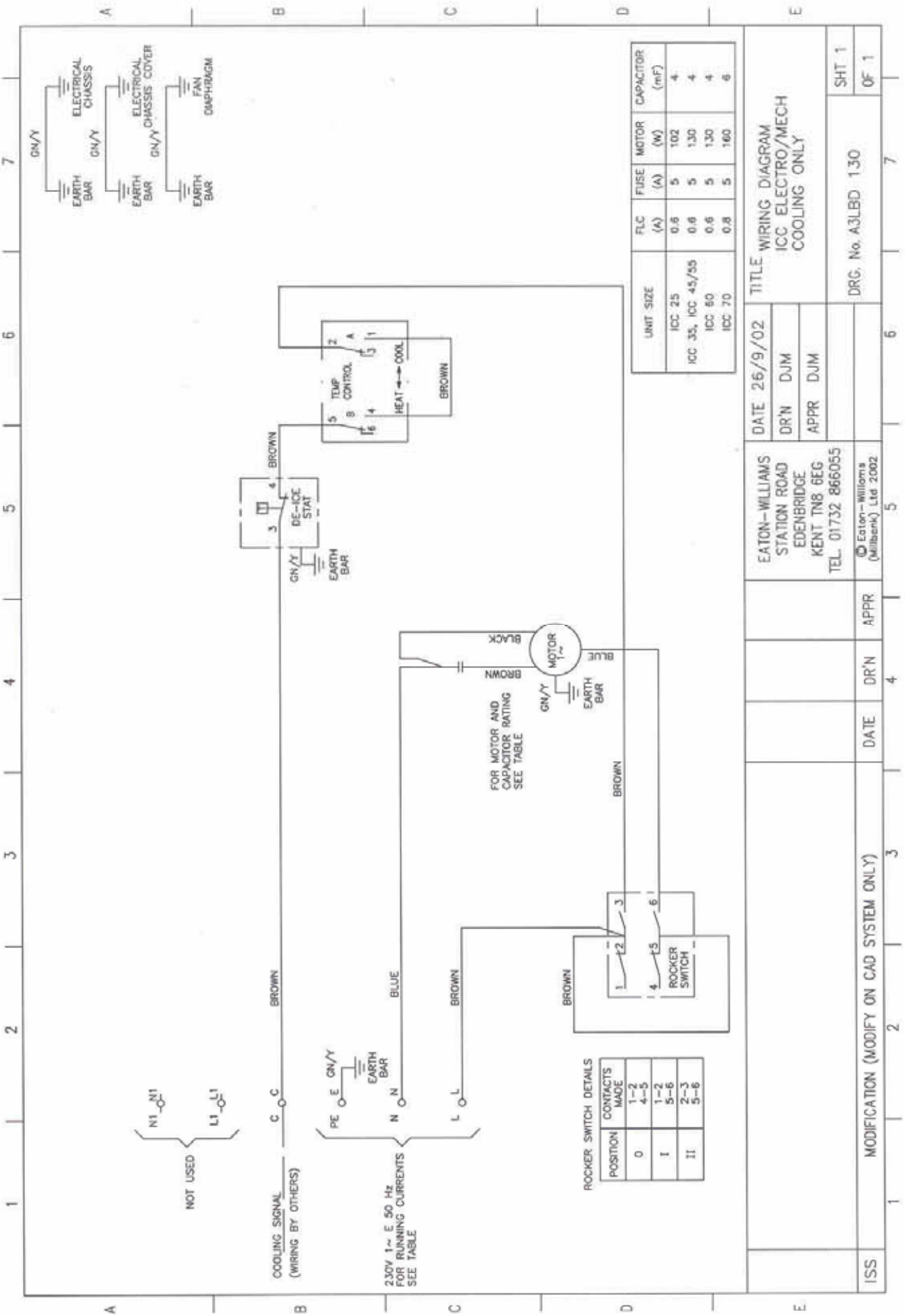
Unit with rotary compressors shall be fitted with crankcase heater.

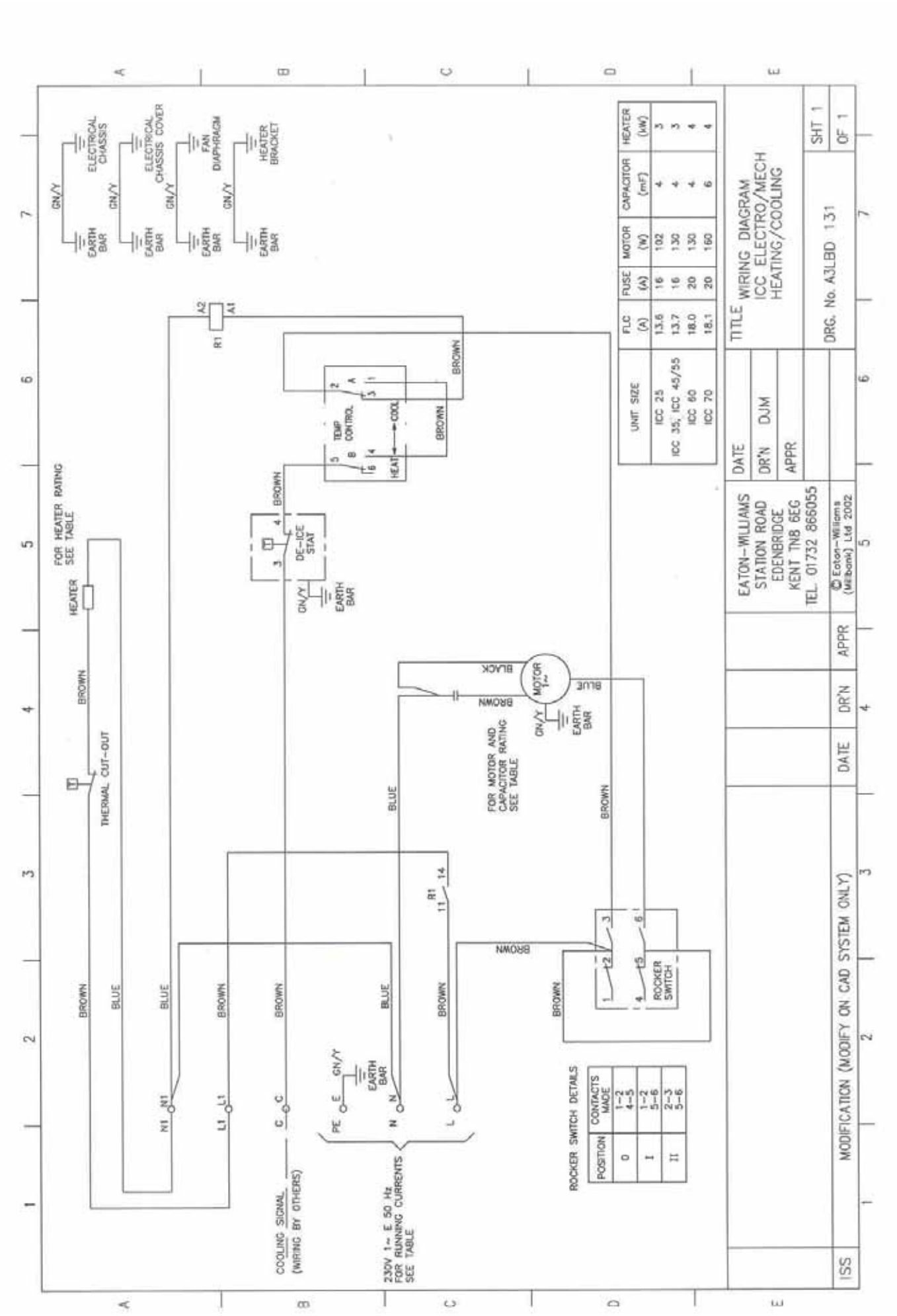
14. WIRING DIAGRAMS

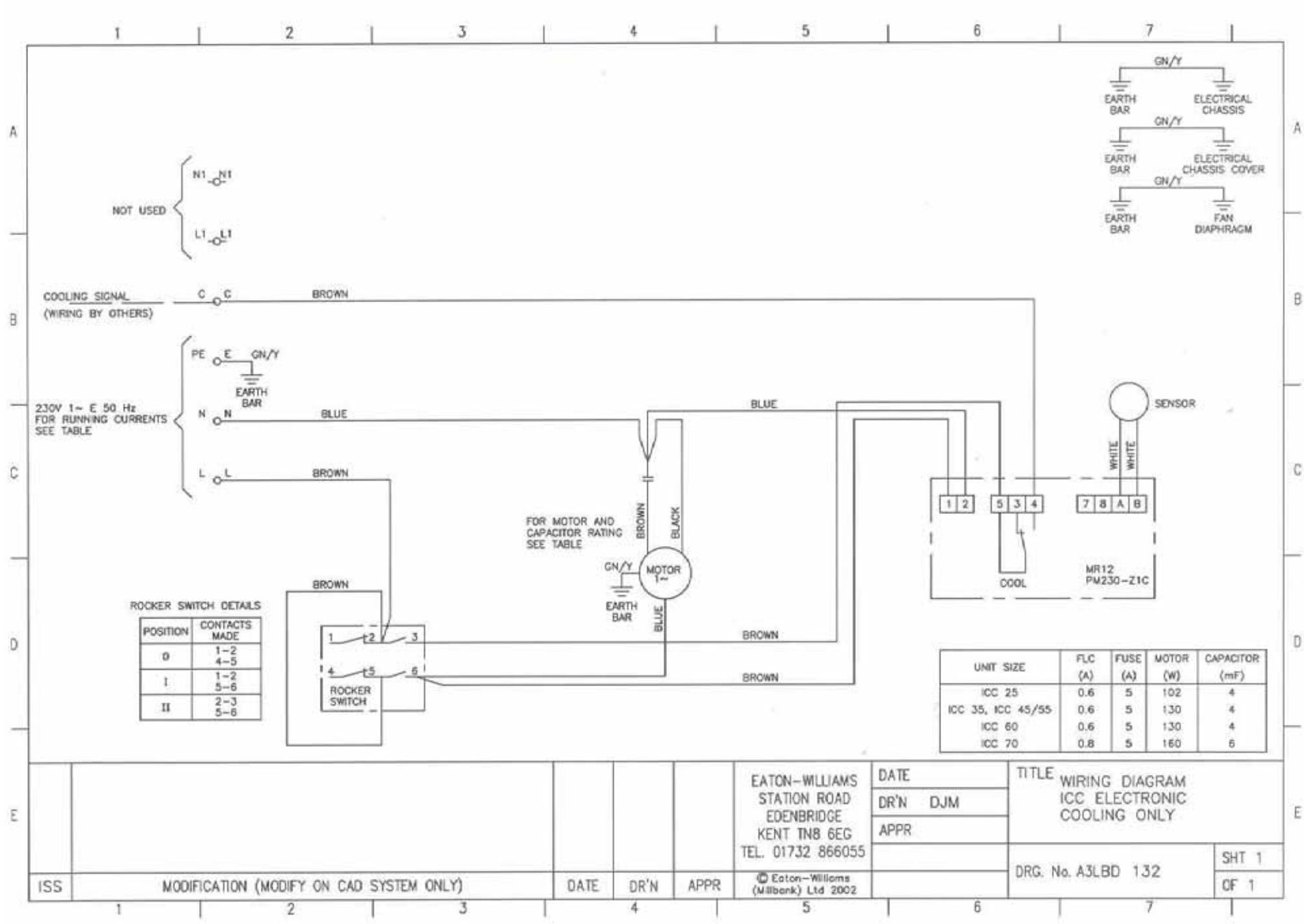
Unit Ref	Function	Type	Phase	Wiring Diagram	Part N°
ICC25, 35, 45/55, 60, 70	Cooling Only	Electromech		A3LBD130	J70632 J70642 J70662 J70682 J70692
ICC25, 35, 45/55, 60, 70	Heat Only	Electromech		A3LBD131	J70631 J70641 J70661 J70681 J70691
ICC25, 35, 45/55, 60, 70	Cooling Only	Electronic		A3LBD132	J70630 J70640 J70660 J70680 J70690
ICC25, 35, 45/55, 60, 70	Heat Only	Electronic		A3LBD133	J70633 J70643 J70663 J70683 J70693

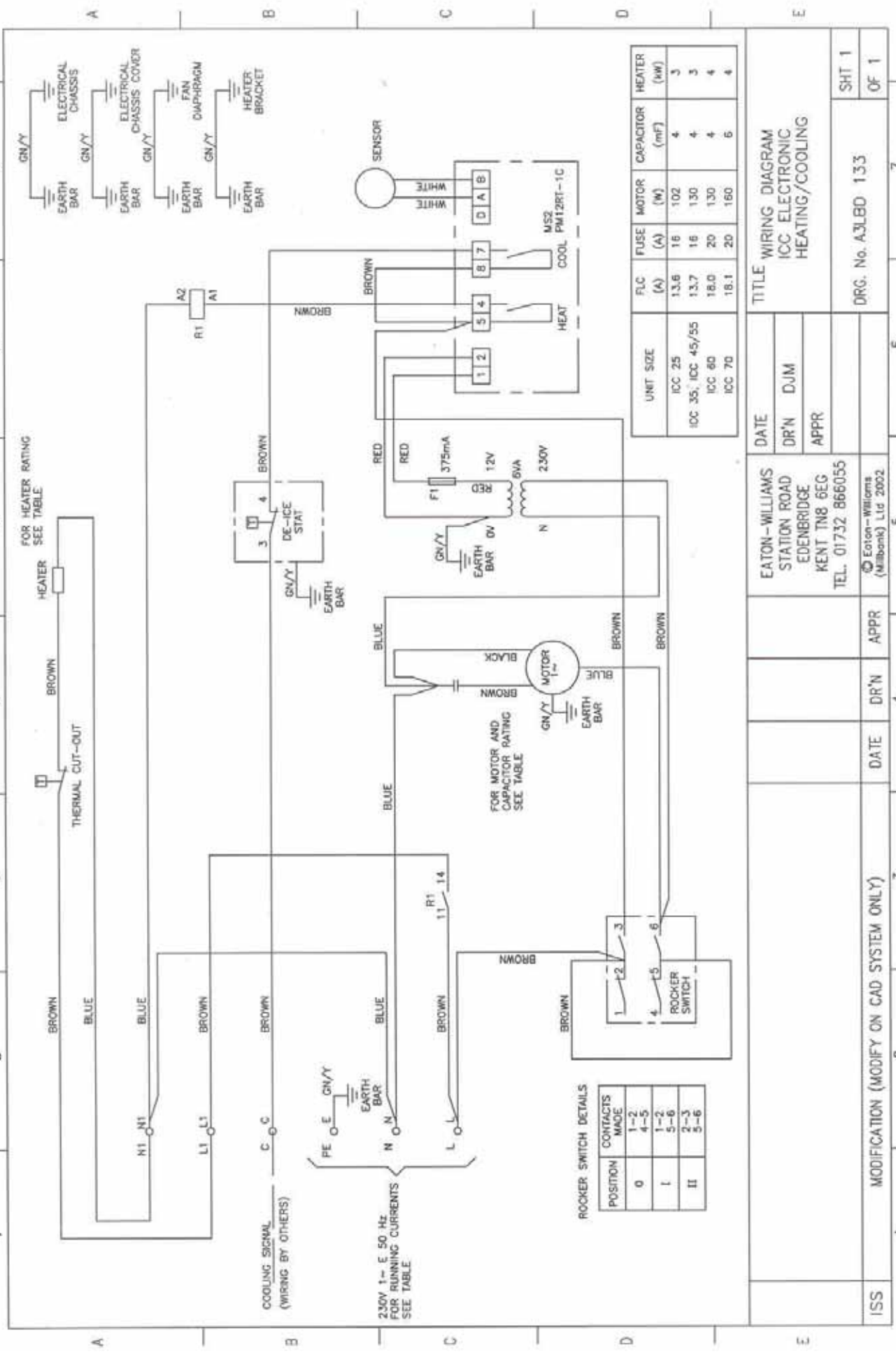
Use the above Wiring Diagrams until ICC Unit Serial N° Q09734. Thereafter, use Wiring Diagrams listed below.

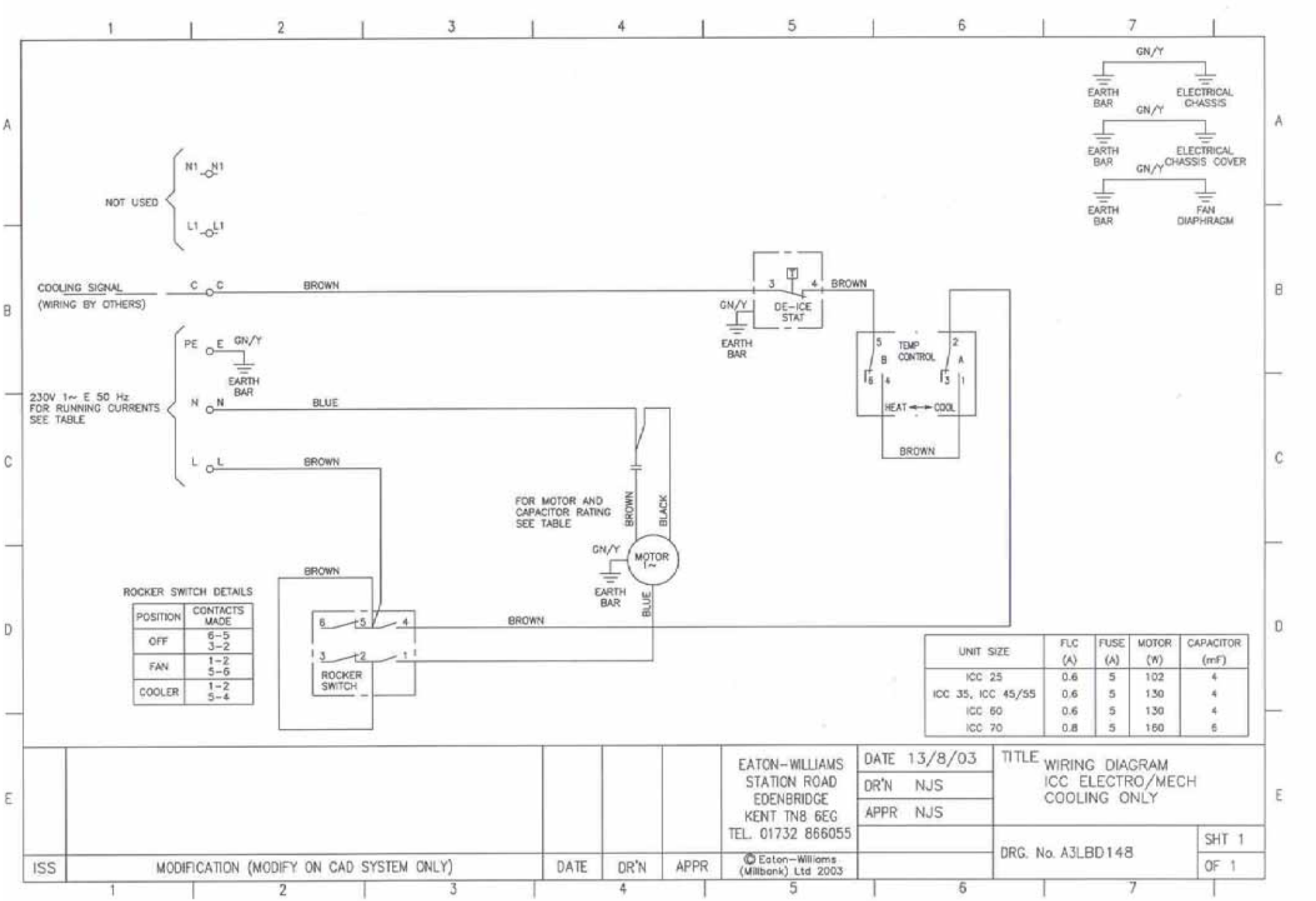
Unit Ref	Function	Type	Phase	Wiring Diagram	Part N°
ICC25, 35, 45/55, 60, 70	Cooling Only	Electromech		A3LBD148	J70632 J70642 J70662 J70682 J70692
ICC25, 35, 45/55, 60, 70	Heat Only	Electromech		A3LBD149	J70631 J70641 J70661 J70681 J70691
ICC25, 35, 45/55, 60, 70	Cooling Only	Electronic		A3LBD150	J70630 J70640 J70660 J70680 J70690
ICC25, 35, 45/55, 60, 70	Heat Only	Electronic		A3LBD151	J70633 J70643 J70663 J70683 J70693
ICU30, 40	Cooling Only	Condensing Unit	1-ph (TS FSC)	A3LBD137	J90733 J90743
ICU55, 80	Cooling Only	Condensing Unit	1-ph (TS FSC)	A3LBD138	J90763 J90783
ICU80	Cooling Only	Condensing Unit	3-ph (TS FSC)	A3LBD139	J90784
ICU100	Cooling Only	Condensing Unit	1-ph (PS FSC)	A3LBD140	J90723
ICU100, 135, 170	Cooling Only	Condensing Unit	3-ph (PS FSC)	A3LBD141	J90724 J90714 J90794
ICU30, 40	Cooling Only	Condensing Unit	1-ph (PS FSC)	A3LBD143	J90733 J90743
ICU55, 80, 100	Cooling Only	Condensing Unit	1-ph (PS FSC)	A3LBD144	J90763 J90783 J90723
ICU80, 100, 135, 170	Cooling Only	Condensing Unit	3-ph (PS FSC)	A3LBD145	J90784 J90724 J90714 J90794
ICU80, 100, 135, 170	Heatpump	Condensing Unit	3-ph (PS FSC)	A3LBD146	J90786 J90726 J90716 J90796
ICU40, 55, 80, 100	Heatpump	Condensing Unit	1-ph (PS FSC)	A3LBD147	J90745 J90765 J90785 J90725

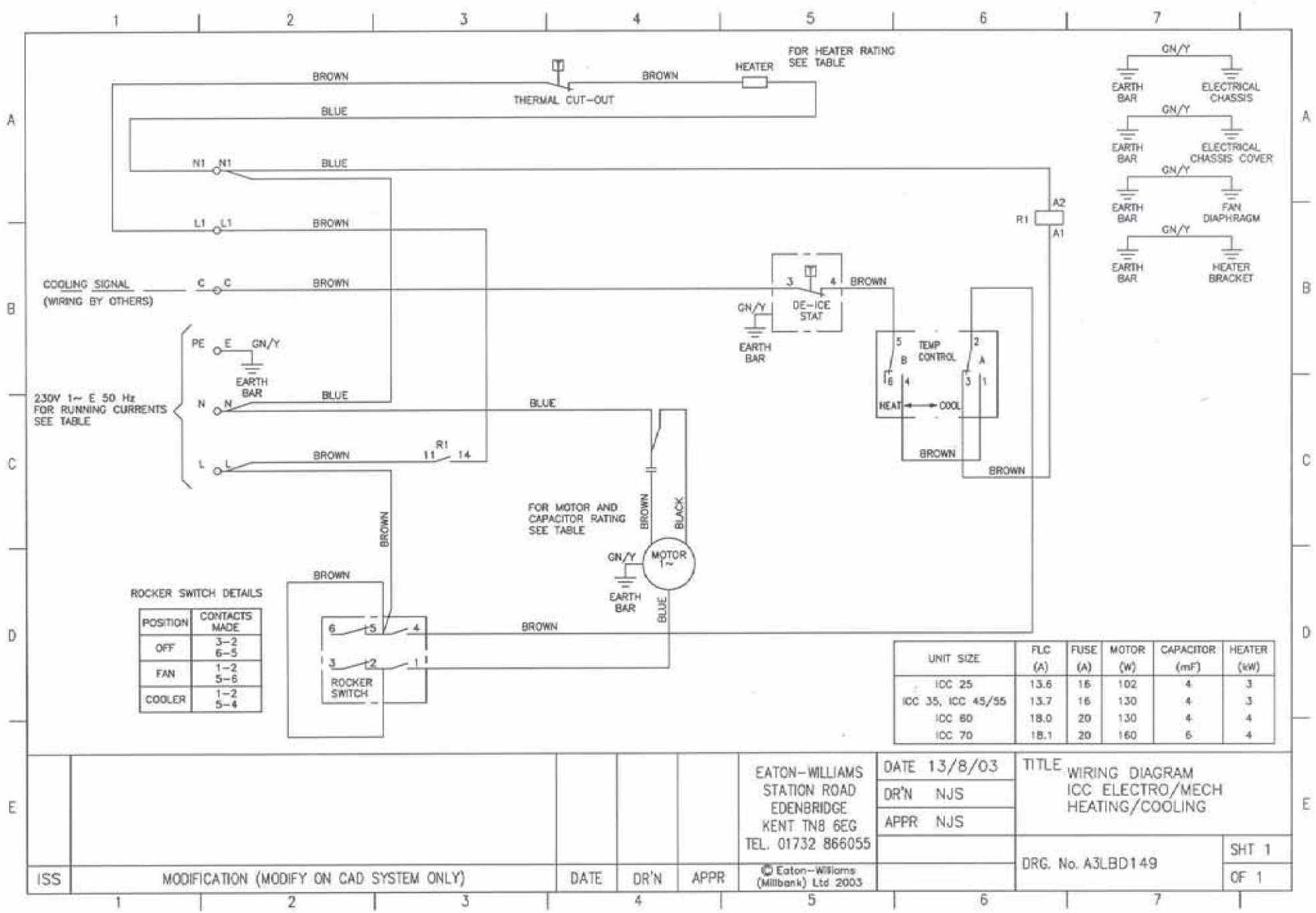

ELECTRICAL CHASSIS
ELECTRICAL CHASSIS COVER
FAN DIAPHRAGM
GN/Y
EARTH BAR
DE-ICE STAT
TEMP CONTROL
HEAT
COOL
BROWN
BLUE
BLACK
MOTOR 1~
ROCKER SWITCH
NOT USED
N1
L1
C
PE
E
N
L
COOLING SIGNAL (WIRING BY OTHERS)
230V 1~ E 50 Hz FOR RUNNING CURRENTS SEE TABLE
FOR MOTOR AND CAPACITOR RATING SEE TABLE
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
0
1-2 4-5
I
1-2 5-6
II
2-3 5-6
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
ICC 25
0.6
5
102
4
ICC 35, ICC 45/55
0.6
5
130
4
ICC 60
0.6
5
130
4
ICC 70
0.8
5
160
6
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL 01732 866055
DATE 26/9/02
DR'N DJM
APPR DJM
TITLE WIRING DIAGRAM
ICC ELECTRO/MECH
COOLING ONLY
DRG. No. A3LBD 130
SHT 1
OF 1
© Eaton-Williams (Millbank) Ltd 2002
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR

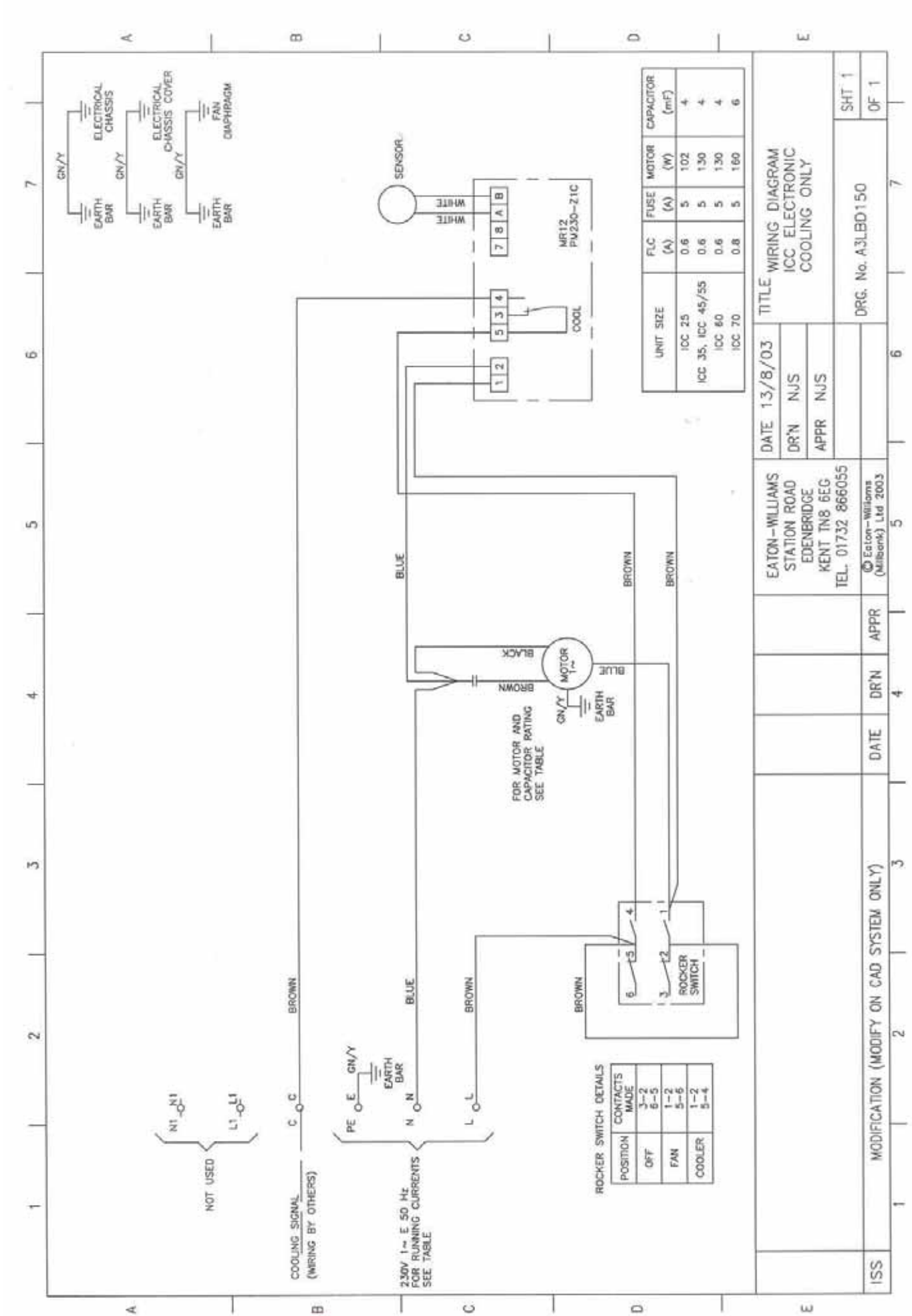

ELECTRICAL CHASSIS
ELECTRICAL CHASSIS COVER
FAN DIAPHRAGM
HEATER BRACKET
GN/Y
EARTH BAR
FOR HEATER RATING SEE TABLE
HEATER
BROWN
THERMAL CUT-OUT
BLUE
TEMP CONTROL
HEAT
COOL
DE-ICE STAT
MOTOR 1~
BLACK
FOR MOTOR AND CAPACITOR RATING SEE TABLE
ROCKER SWITCH
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
0
1-2 4-5
I
1-2 5-6
II
2-3 5-6
COOLING SIGNAL (WIRING BY OTHERS)
230V 1~ E 50 Hz FOR RUNNING CURRENTS SEE TABLE
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
HEATER (kW)
ICC 25
13.6
16
102
4
3
ICC 35, ICC 45/55
13.7
16
130
4
3
ICC 60
18.0
20
130
4
4
ICC 70
18.1
20
160
6
4
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE
DR'N DJM
APPR
TITLE WIRING DIAGRAM
ICC ELECTRO/MECH
HEATING/COOLING
DRG. No. A3LBD 131
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Milbank) Ltd 2002

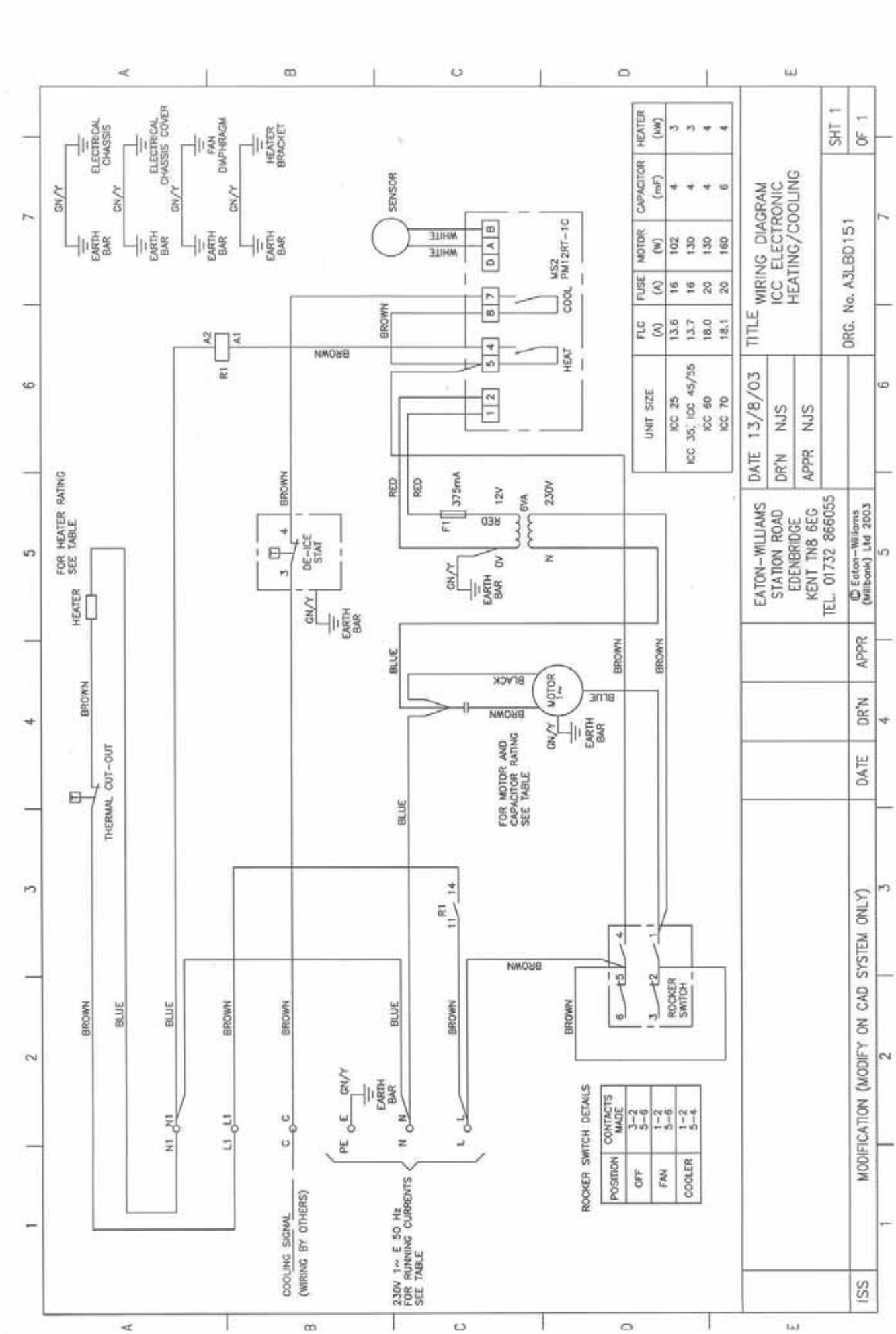

GN/Y
EARTH BAR
ELECTRICAL CHASSIS
GN/Y
EARTH BAR
ELECTRICAL CHASSIS COVER
GN/Y
EARTH BAR
FAN DIAPHRAGM
NOT USED
N1
N1
L1
L1
COOLING SIGNAL
(WIRING BY OTHERS)
C
C
BROWN
230V 1~ E 50 Hz
FOR RUNNING CURRENTS
SEE TABLE
PE
E
GN/Y
EARTH BAR
N
N
BLUE
L
L
BROWN
BLUE
SENSOR
WHITE
WHITE
1 2
5 3 4
7 8 A B
COOL
MR12
PM230-Z1C
FOR MOTOR AND
CAPACITOR RATING
SEE TABLE
BROWN
BLACK
GN/Y
MOTOR
1~
EARTH BAR
BLUE
BROWN
BROWN
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
0
1-2
4-5
I
1-2
5-6
II
2-3
5-6
1
2
3
4
5
6
ROCKER SWITCH
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
ICC 25
0.6
5
102
4
ICC 35, ICC 45/55
0.6
5
130
4
ICC 60
0.6
5
130
4
ICC 70
0.8
5
160
6
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE
DR'N DJM
APPR
TITLE
WIRING DIAGRAM
ICC ELECTRONIC
COOLING ONLY
DRG. No. A3LBD 132
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Millbank) Ltd 2002

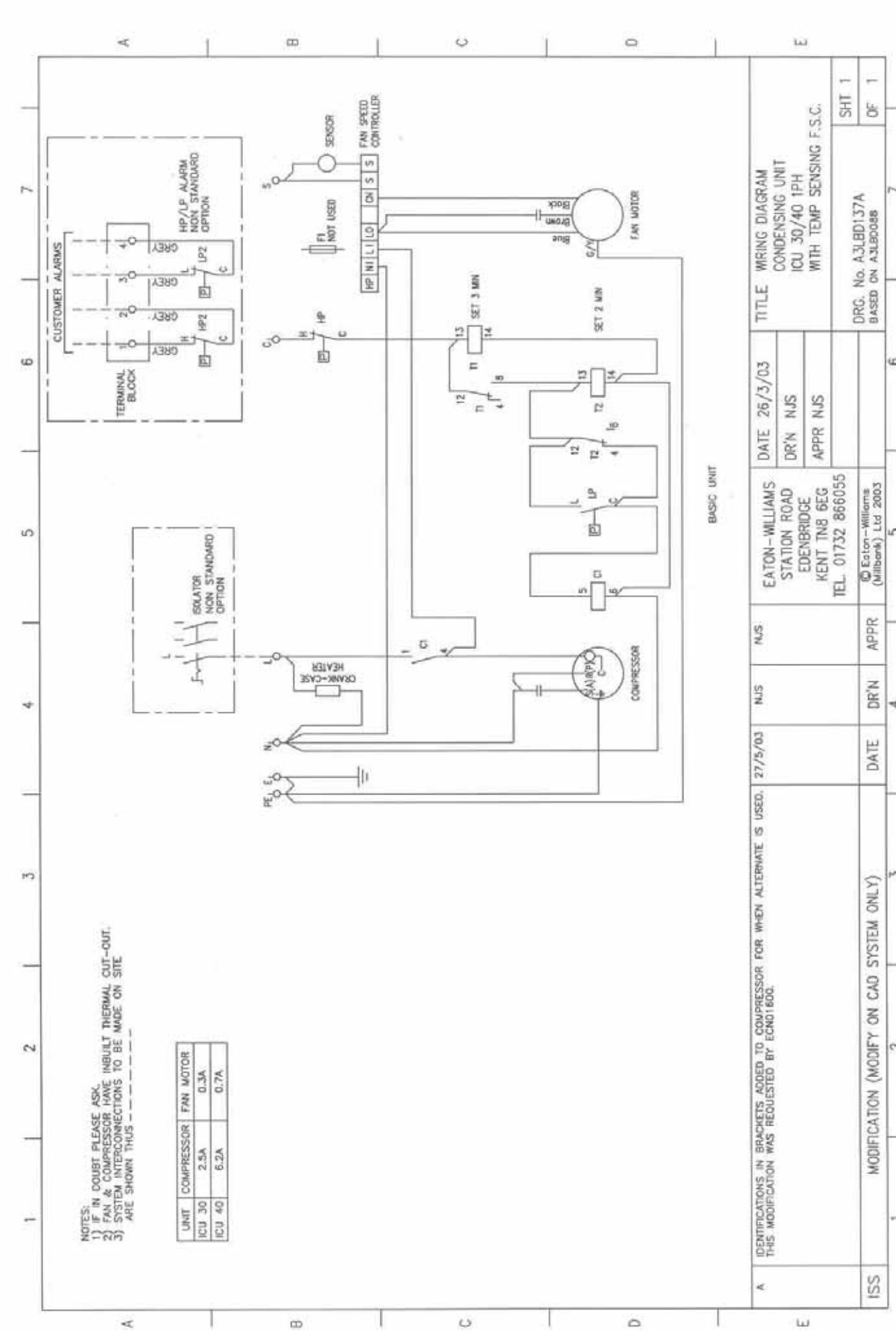

ELECTRICAL CHASSIS
ELECTRICAL CHASSIS COVER
FAN DIAPHRAGM
HEATER BRACKET
EARTH BAR
GN/Y
SENSOR
WHITE
MS2
PM12RT-1C
COOL
HEAT
BROWN
RED
375mA
12V
6VA
230V
0V
F1
R1
A1
A2
DE-ICE STAT
HEATER
THERMAL CUT-OUT
FOR HEATER RATING SEE TABLE
MOTOR
BLUE
BLACK
FOR MOTOR AND CAPACITOR RATING SEE TABLE
ROCKER SWITCH
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
0
1-2 4-5
I
1-2 5-6
II
2-3 5-6
COOLING SIGNAL (WIRING BY OTHERS)
230V 1~ E 50 Hz FOR RUNNING CURRENTS SEE TABLE
PE
N
L
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
HEATER (kW)
ICC 25
13.6
16
102
4
3
ICC 35, ICC 45/55
13.7
16
130
4
3
ICC 60
18.0
20
130
4
4
ICC 70
18.1
20
160
6
4
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE
DR'N DJM
APPR
TITLE WIRING DIAGRAM
ICC ELECTRONIC
HEATING/COOLING
DRG. No. A3LBD 133
SHT 1
OF 1
© Eaton-Williams (Millbank) Ltd 2002
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR

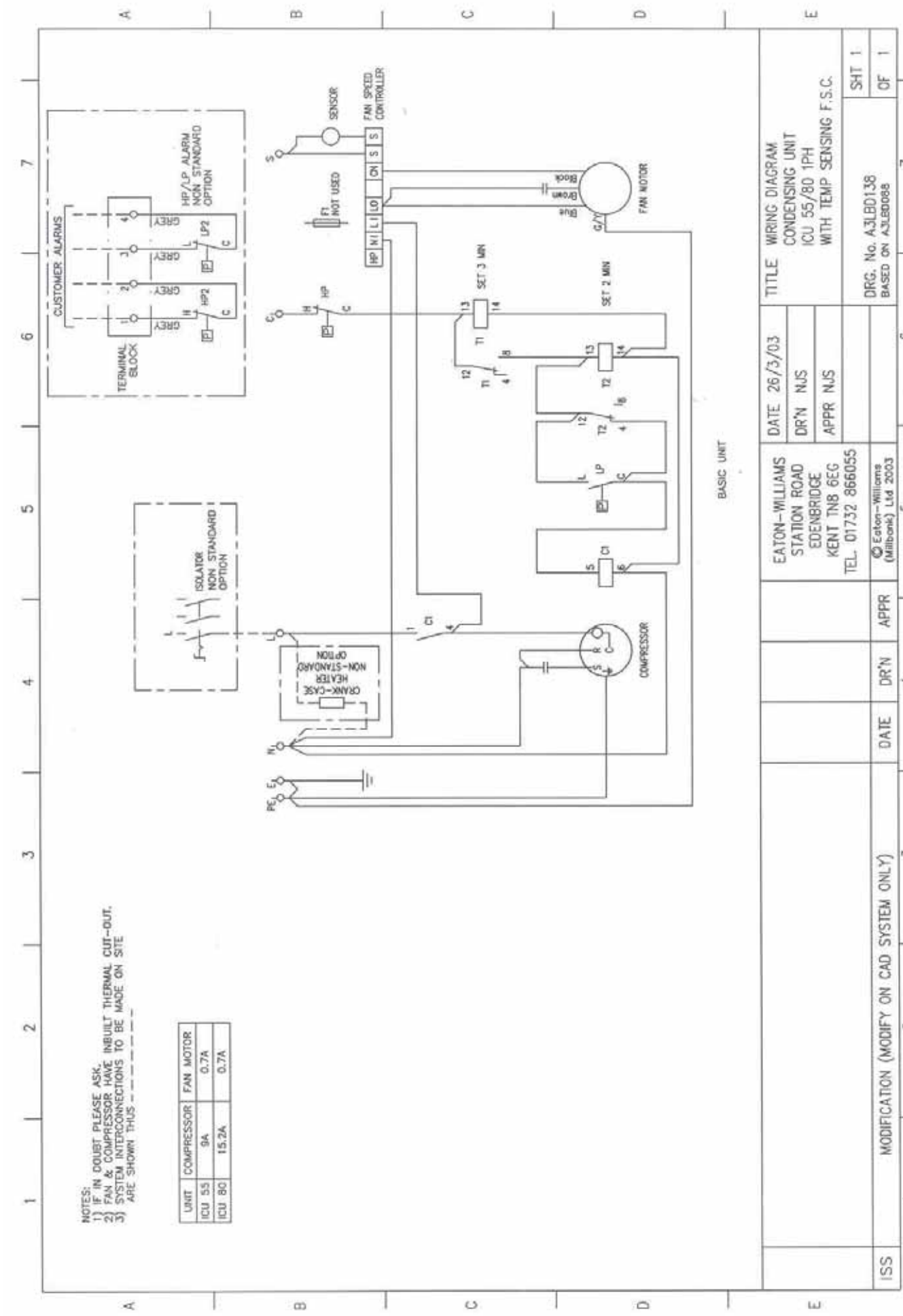

GN/Y
EARTH BAR
ELECTRICAL CHASSIS
GN/Y
EARTH BAR
ELECTRICAL CHASSIS COVER
GN/Y
EARTH BAR
FAN DIAPHRAGM
NOT USED
N1
N1
L1
L1
COOLING SIGNAL
(WIRING BY OTHERS)
C
C
BROWN
3
4
BROWN
GN/Y
DE-ICE STAT
EARTH BAR
5
B
TEMP CONTROL
2
A
6
4
3
1
HEAT
COOL
BROWN
PE
E
GN/Y
EARTH BAR
230V 1~ E 50 Hz
FOR RUNNING CURRENTS
SEE TABLE
N
N
BLUE
L
L
BROWN
FOR MOTOR AND
CAPACITOR RATING
SEE TABLE
BROWN
BLACK
GN/Y
MOTOR
1~
EARTH BAR
BLUE
BROWN
6
5
4
3
2
1
ROCKER SWITCH
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
OFF
6-5
3-2
FAN
1-2
5-6
COOLER
1-2
5-4
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
ICC 25
0.6
5
102
4
ICC 35, ICC 45/55
0.6
5
130
4
ICC 60
0.6
5
130
4
ICC 70
0.8
5
160
6
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE 13/8/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
ICC ELECTRO/MECH
COOLING ONLY
DRG. No. A3LBD148
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Millbank) Ltd 2003

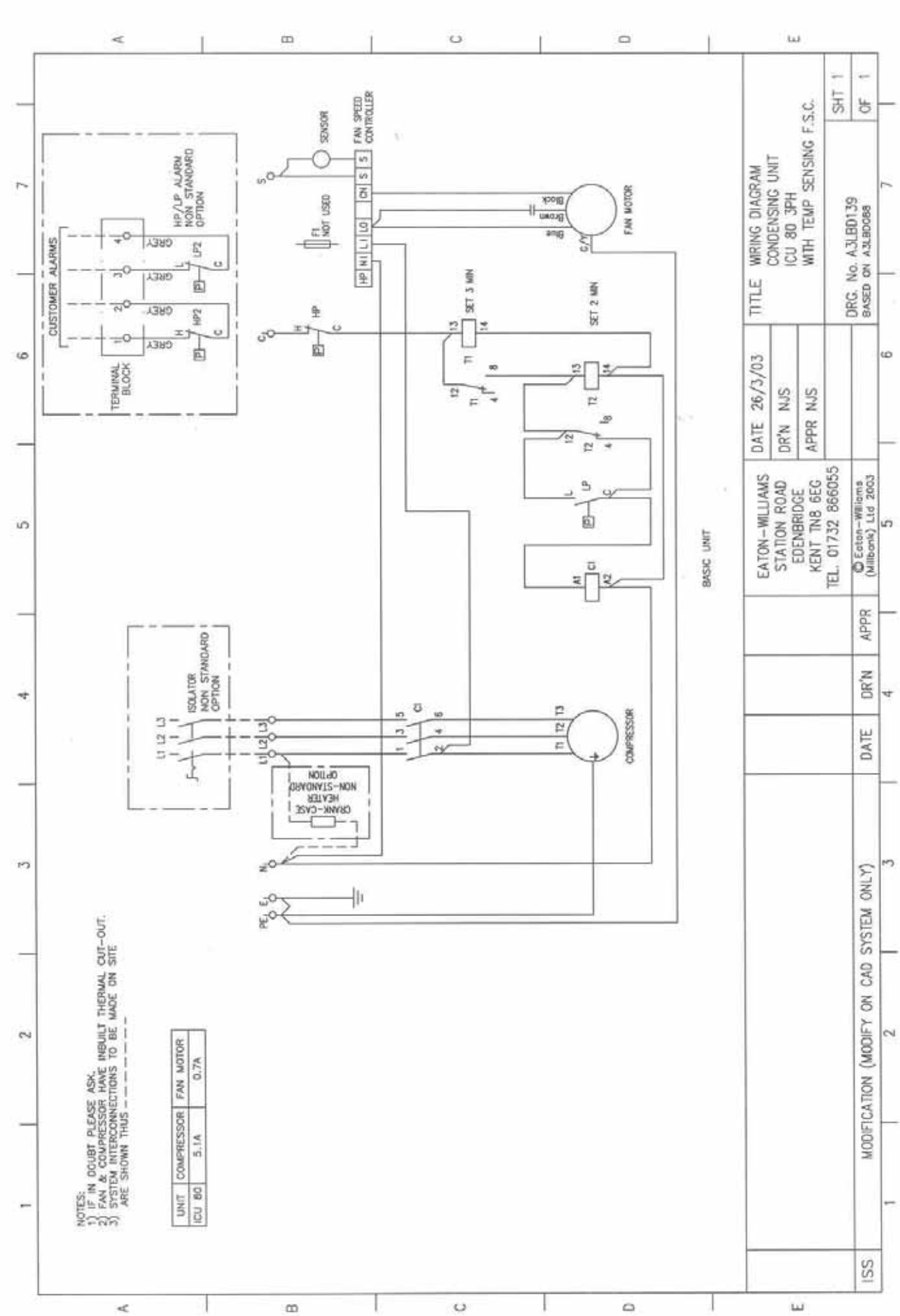

FOR HEATER RATING SEE TABLE
HEATER
THERMAL CUT-OUT
BROWN
BLUE
COOLING SIGNAL
(WIRING BY OTHERS)
230V 1~ E 50 Hz
FOR RUNNING CURRENTS SEE TABLE
EARTH BAR
GN/Y
PE
E
N
L
N1
L1
C
R1
A2
A1
DE-ICE STAT
TEMP CONTROL
HEAT
COOL
FOR MOTOR AND CAPACITOR RATING SEE TABLE
MOTOR
BLACK
ROCKER SWITCH
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
OFF
3-2 6-5
FAN
1-2 5-6
COOLER
1-2 5-4
ELECTRICAL CHASSIS
ELECTRICAL CHASSIS COVER
FAN DIAPHRAGM
HEATER BRACKET
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
HEATER (kW)
ICC 25
13.6
16
102
4
3
ICC 35, ICC 45/55
13.7
16
130
4
3
ICC 60
18.0
20
130
4
4
ICC 70
18.1
20
160
6
4
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE 13/8/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
ICC ELECTRO/MECH
HEATING/COOLING
DRG. No. A3LBD149
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Millbank) Ltd 2003

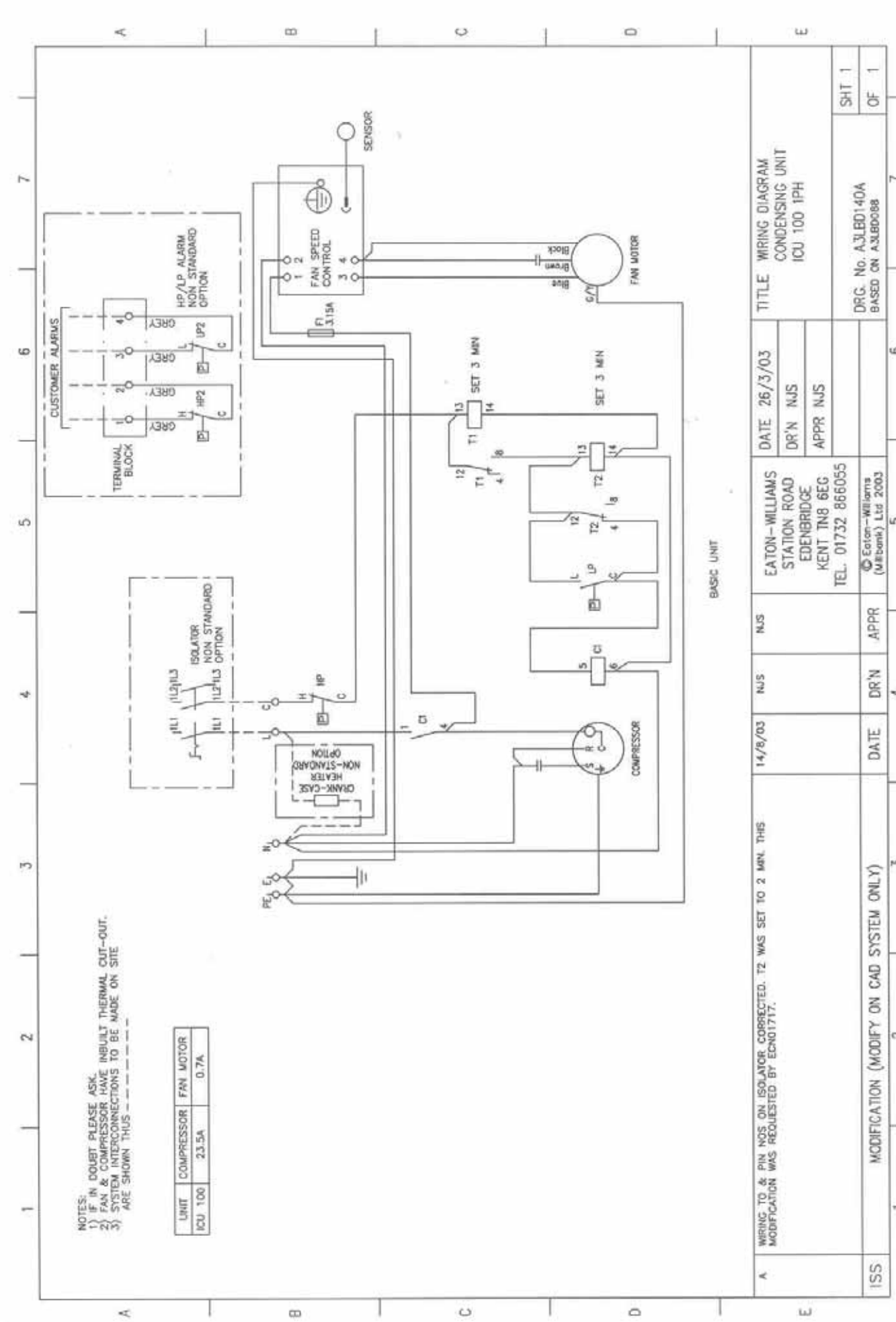

ELECTRICAL CHASSIS
ELECTRICAL CHASSIS COVER
FAN DIAPHRAGM
GN/Y
EARTH BAR
SENSOR
WHITE
MR12 PV230-Z1C
COOL
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
ICC 25
ICC 35, ICC 45/55
ICC 60
ICC 70
0.6
0.6
0.6
0.8
5
5
5
5
102
130
130
160
4
4
4
6
BLUE
BROWN
BLACK
MOTOR 1~
FOR MOTOR AND CAPACITOR RATING SEE TABLE
ROCKER SWITCH
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
OFF
3-2 6-5
FAN
1-2 5-6
COOLER
1-2 3-4
N1
L1
NOT USED
C
COOLING SIGNAL (WIRING BY OTHERS)
PE
N
L
230V 1~ E 50 Hz FOR RUNNING CURRENTS SEE TABLE
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE 13/8/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM ICC ELECTRONIC COOLING ONLY
DRG. No. A3LBD150
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Millbank) Ltd 2003

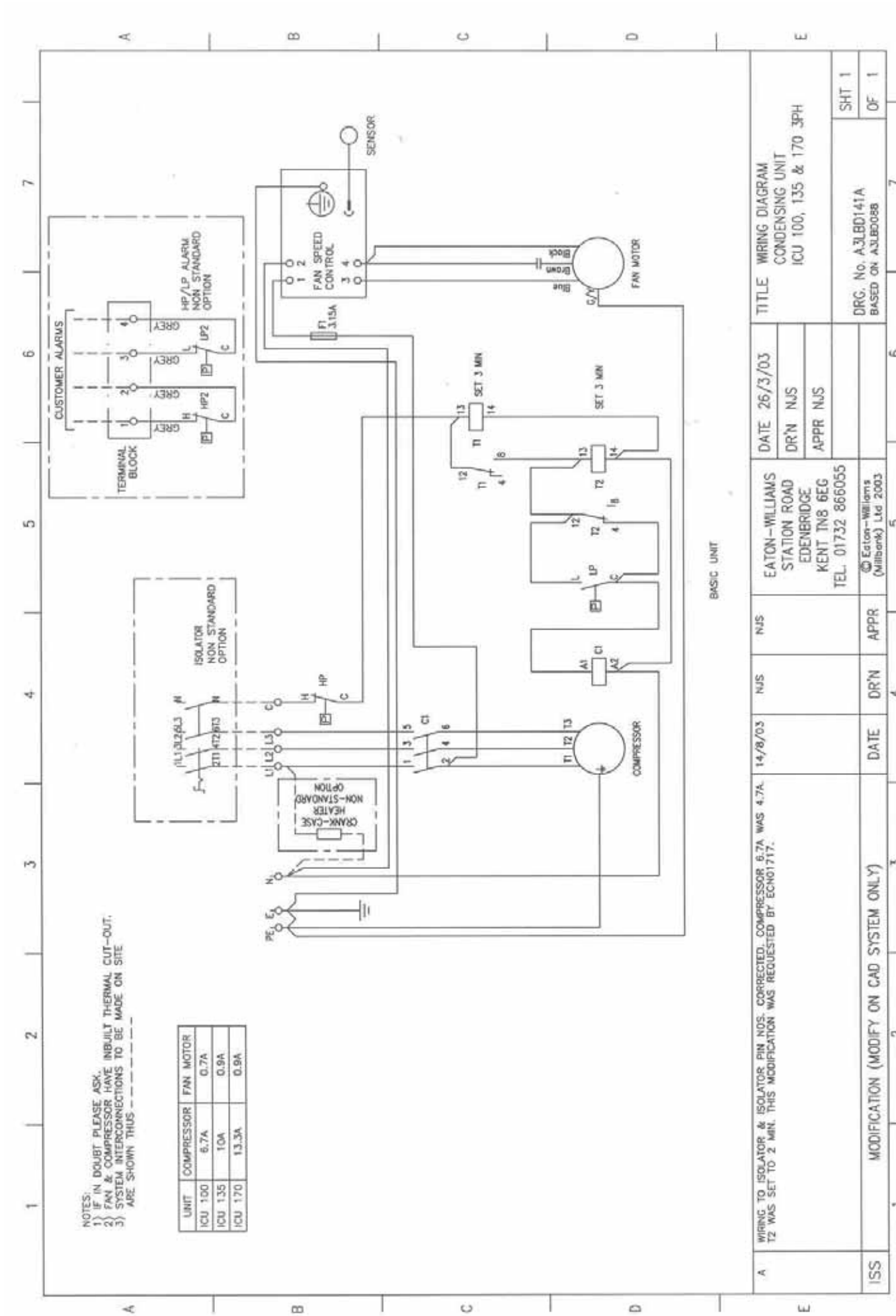

ELECTRICAL CHASSIS
ELECTRICAL CHASSIS COVER
FAN DIAPHRAGM
HEATER BRACKET
EARTH BAR
GN/Y
SENSOR
WHITE
MS2
PM12RT-1C
COOL
HEAT
BROWN
RED
BLUE
BLACK
A1
A2
R1
F1
375mA
12V
6VA
230V
0V
N
DE-ICE STAT
MOTOR
FOR HEATER RATING SEE TABLE
HEATER
THERMAL CUT-OUT
FOR MOTOR AND CAPACITOR RATING SEE TABLE
ROCKER SWITCH
ROCKER SWITCH DETAILS
POSITION
CONTACTS MADE
OFF
FAN
COOLER
COOLING SIGNAL (WIRING BY OTHERS)
230V 1~ E 50 Hz FOR RUNNING CURRENTS SEE TABLE
UNIT SIZE
FLC (A)
FUSE (A)
MOTOR (W)
CAPACITOR (mF)
HEATER (kW)
ICC 25
ICC 35, ICC 45/55
ICC 60
ICC 70
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE 13/8/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
ICC ELECTRONIC
HEATING/COOLING
DRG. No. A3LBD151
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR

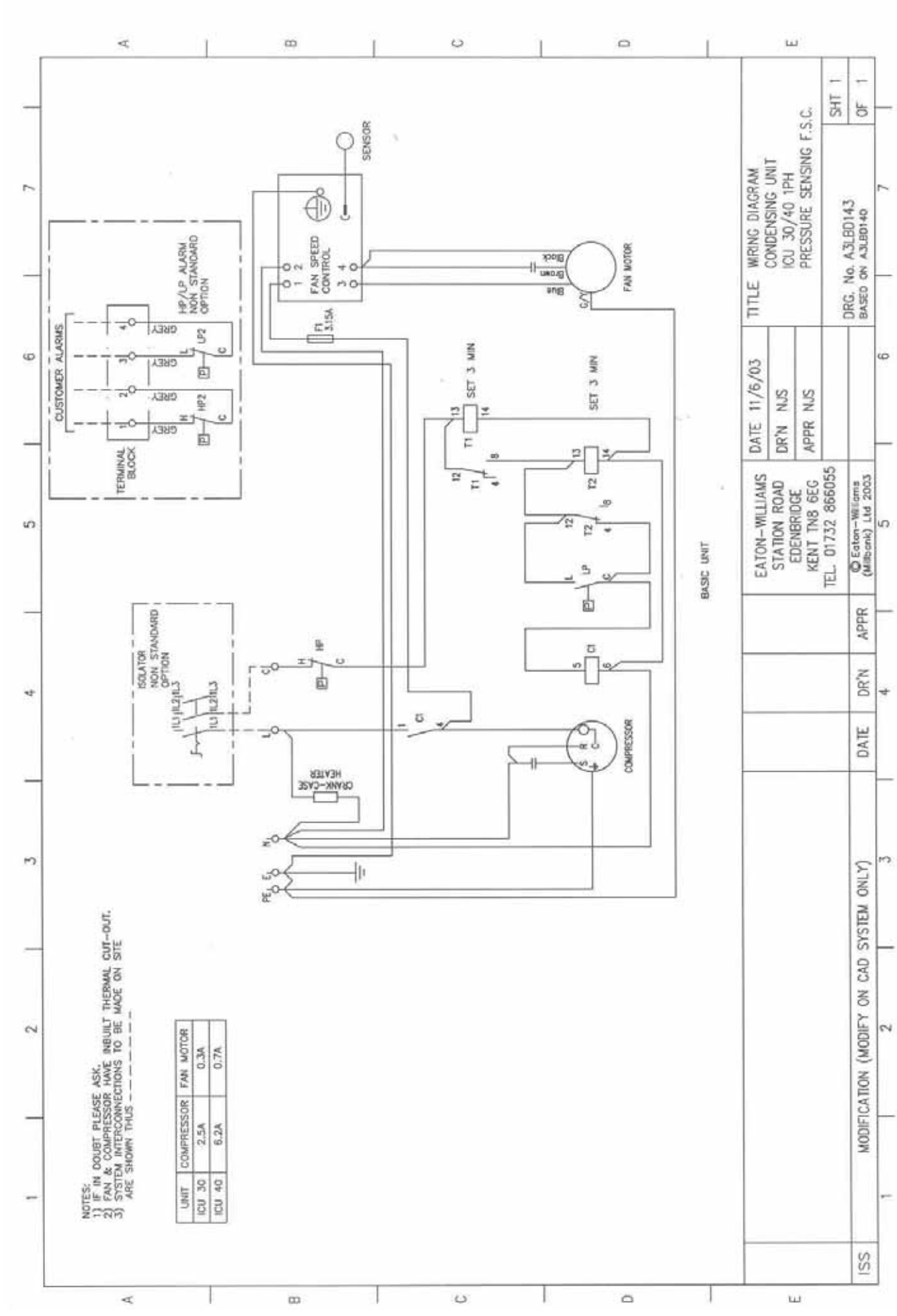

NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS _ _ _ _ _ _ _
UNIT | COMPRESSOR | FAN MOTOR
ICU 30 | 2.5A | 0.3A
ICU 40 | 6.2A | 0.7A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER
COMPRESSOR
FAN MOTOR
FAN SPEED CONTROLLER
SENSOR
F1 NOT USED
SET 3 MIN
SET 2 MIN
BASIC UNIT
ISS
A
IDENTIFICATIONS IN BRACKETS ADDED TO COMPRESSOR FOR WHEN ALTERNATE IS USED. THIS MODIFICATION WAS REQUESTED BY ECN01600.
27/5/03
NJS
NJS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
© Eaton-Williams (Millbank) Ltd 2003
DATE 26/3/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
CONDENSING UNIT
ICU 30/40 1PH
WITH TEMP SENSING F.S.C.
DRG. No. A3LBD137A
BASED ON A3LBD088
SHT 1
OF 1

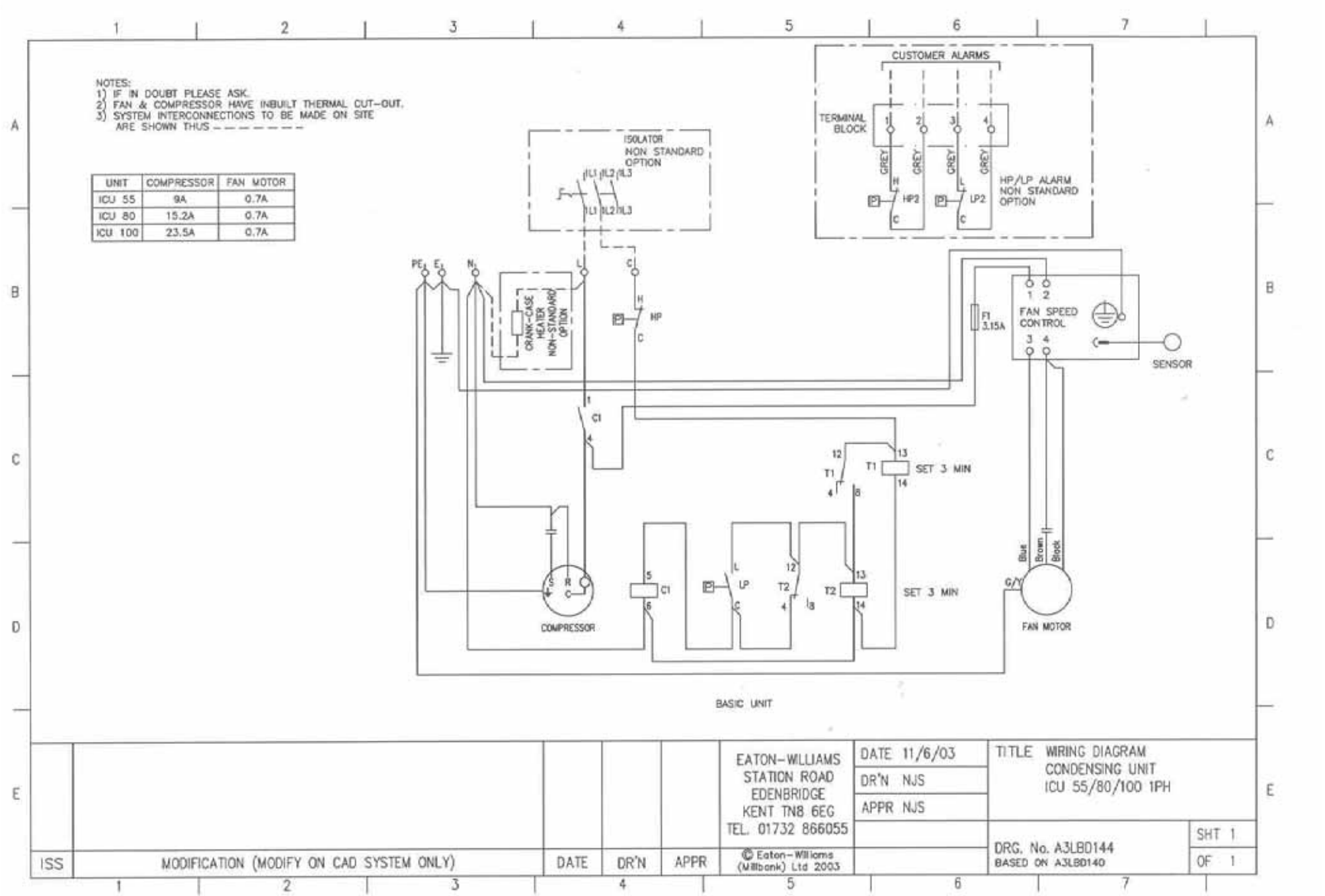

NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS
UNIT | COMPRESSOR | FAN MOTOR
ICU 55 | 9A | 0.7A
ICU 80 | 15.2A | 0.7A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
GREY
LP2
HP2
HP
SENSOR
FAN SPEED CONTROLLER
F1 NOT USED
HP N L1 LO ON S S
FAN MOTOR
Blue
Brown
Black
G/Y
SET 3 MIN
SET 2 MIN
T1
T2
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER NON-STANDARD OPTION
COMPRESSOR
BASIC UNIT
PE
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE 26/3/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
CONDENSING UNIT
ICU 55/80 1PH
WITH TEMP SENSING F.S.C.
DRG. No. A3LB0138
BASED ON A3LB0088
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Millbank) Ltd 2003

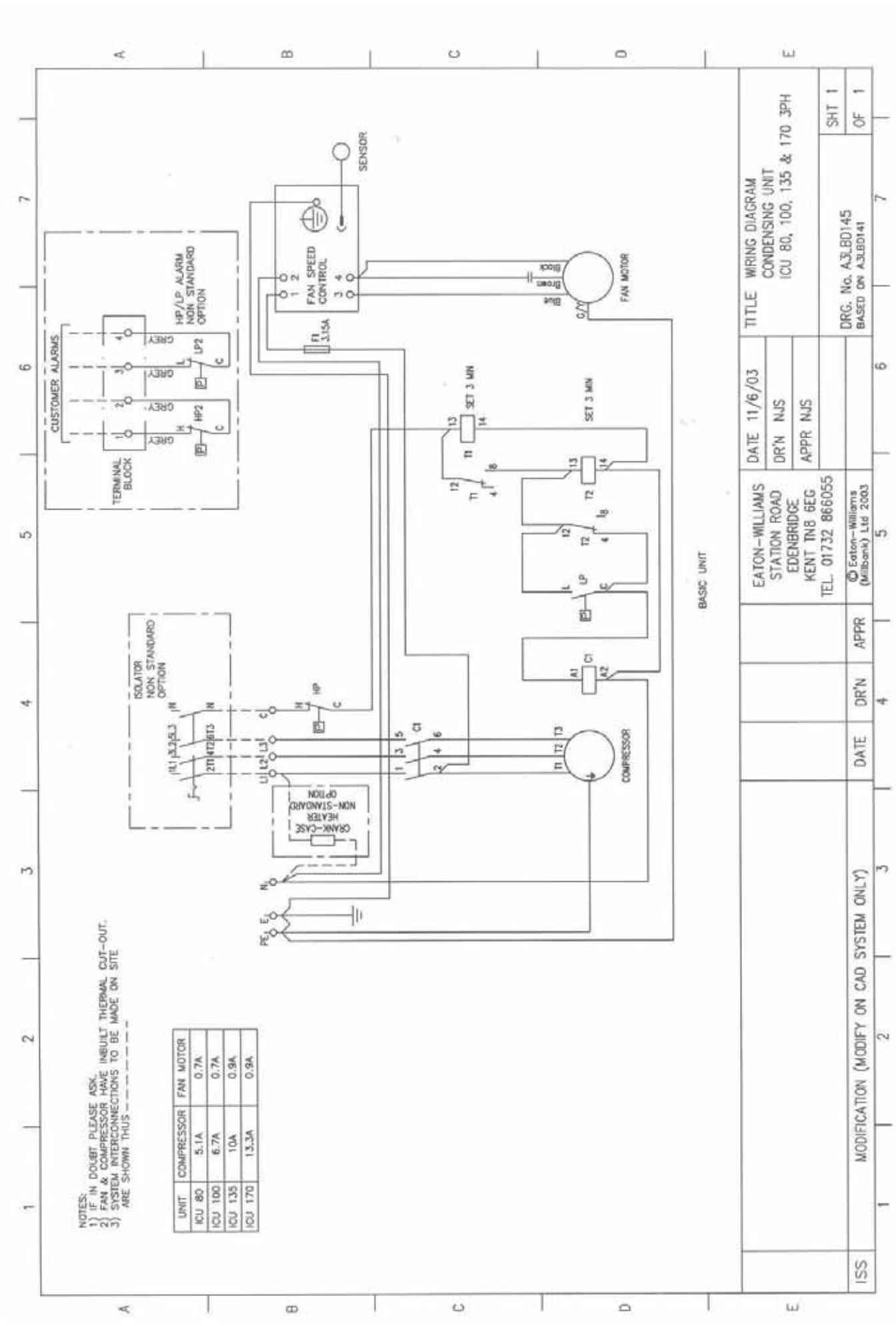

NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS _ _ _ _ _
UNIT | COMPRESSOR | FAN MOTOR
ICU 80 | 5.1A | 0.7A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER NON-STANDARD OPTION
SENSOR
FAN SPEED CONTROLLER
F1 NOT USED
FAN MOTOR
COMPRESSOR
SET 3 MIN
SET 2 MIN
BASIC UNIT
TITLE WIRING DIAGRAM CONDENSING UNIT ICU 80 3PH WITH TEMP SENSING F.S.C.
DRG. No. A3LBD139
BASED ON A3LBD088
DATE 26/3/03
DR'N NJS
APPR NJS
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
© Eaton-Williams (Millbank) Ltd 2003
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
SHT 1
OF 1

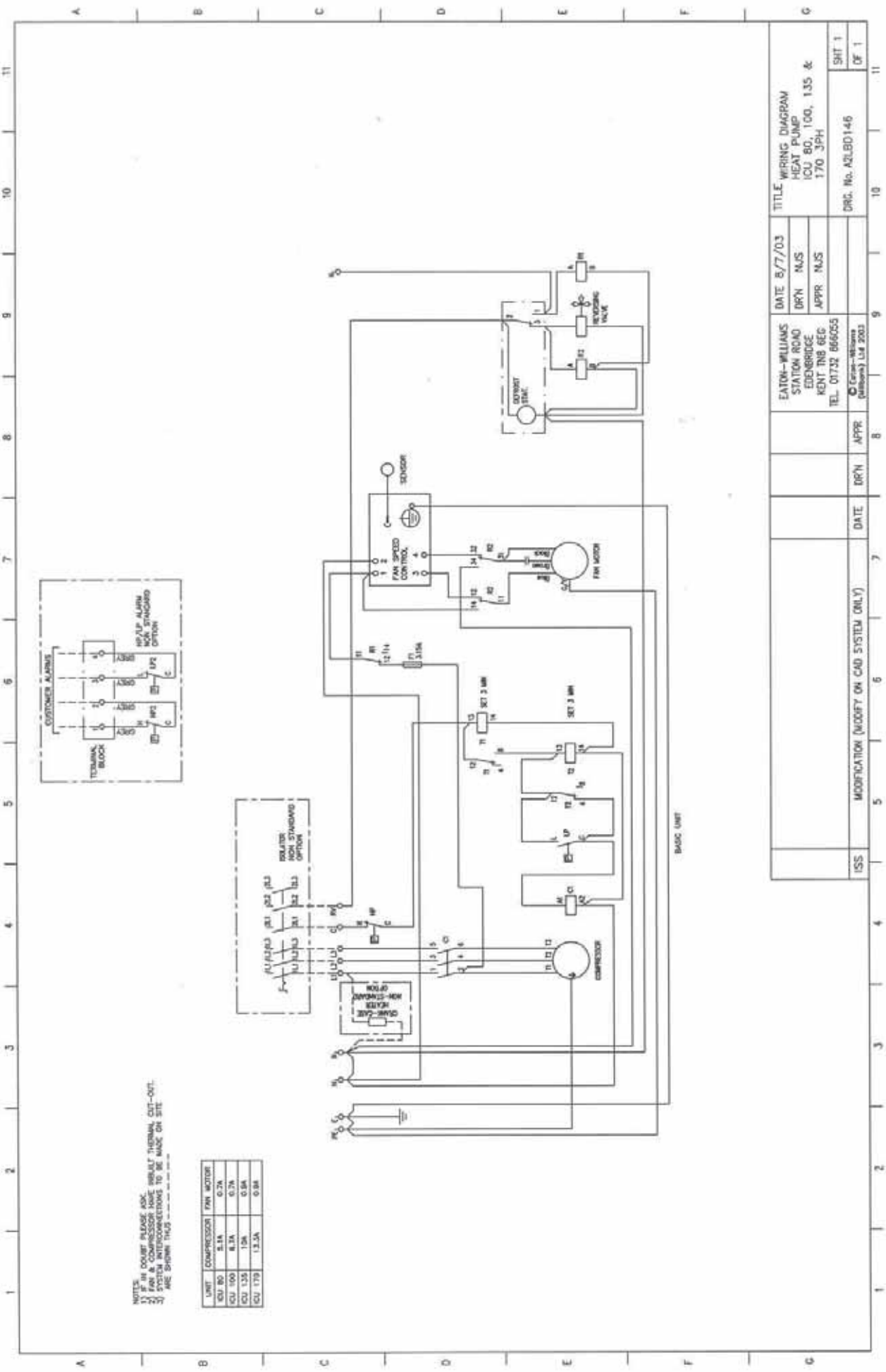

NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS - - - - - - - -
UNIT | COMPRESSOR | FAN MOTOR
ICU 100 | 23.5A | 0.7A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER NON-STANDARD OPTION
SENSOR
FAN SPEED CONTROL
FAN MOTOR
COMPRESSOR
SET 3 MIN
BASIC UNIT
ISS
A
WIRING TO & PIN NOS ON ISOLATOR CORRECTED. T2 WAS SET TO 2 MIN. THIS MODIFICATION WAS REQUESTED BY ECN01717.
14/8/03
NJS
NJS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
© Eaton-Williams (Wilbomik) Ltd 2003
DATE 26/3/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
CONDENSING UNIT
ICU 100 1PH
DRG. No. A3LBD140A
BASED ON A3LBD088
SHT 1
OF 1

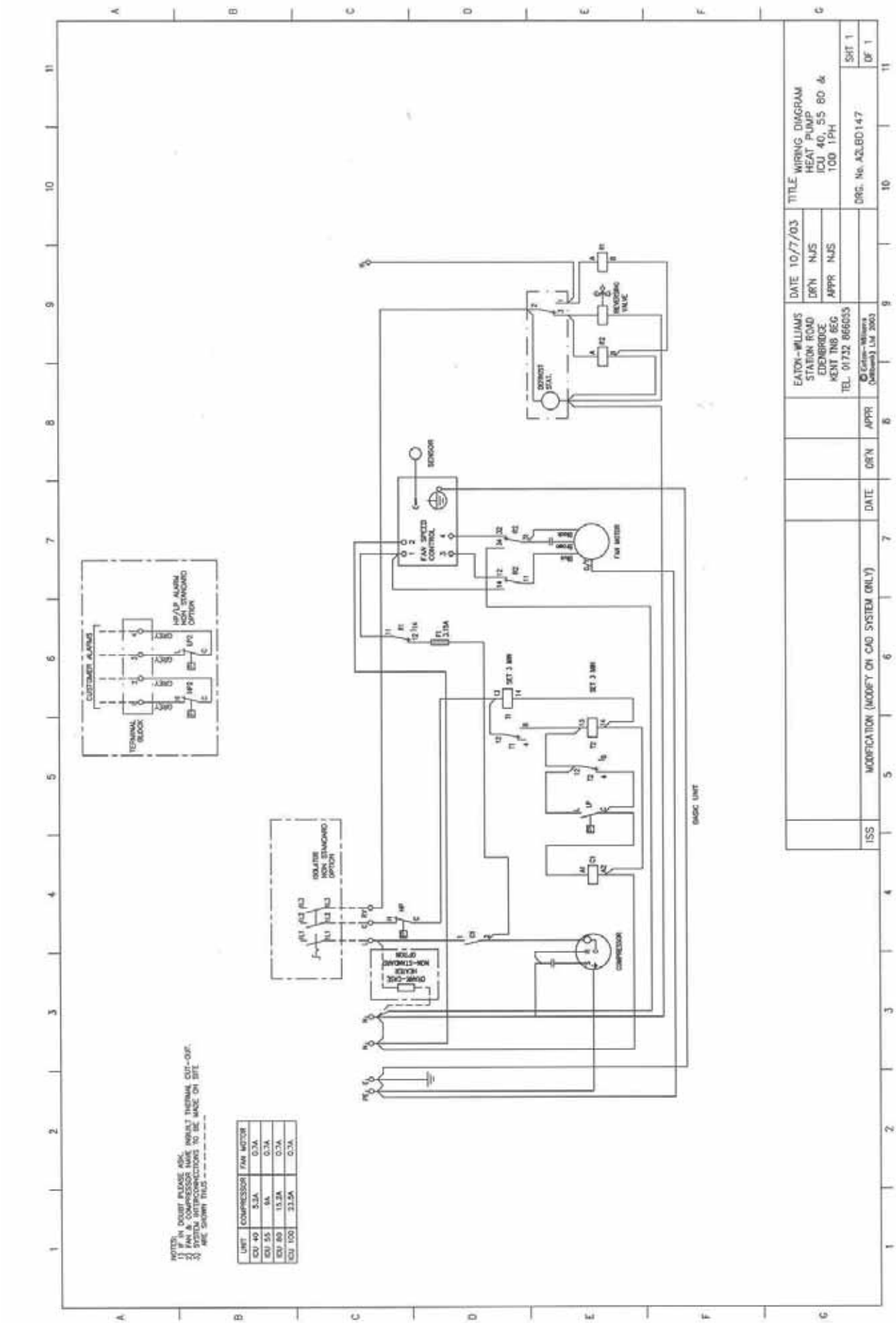

NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS - - - - - - - -
UNIT | COMPRESSOR | FAN MOTOR
ICU 100 | 6.7A | 0.7A
ICU 135 | 10A | 0.9A
ICU 170 | 13.3A | 0.9A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER NON-STANDARD OPTION
FAN SPEED CONTROL
SENSOR
FAN MOTOR
COMPRESSOR
SET 3 MIN
BASIC UNIT
ISS
A
WIRING TO ISOLATOR & ISOLATOR PIN NOS. CORRECTED. COMPRESSOR 6.7A WAS 4.7A. T2 WAS SET TO 2 MIN. THIS MODIFICATION WAS REQUESTED BY ECN01717.
14/8/03
NJS
NJS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
© Eaton-Williams (Willbank) Ltd 2003
DATE 26/3/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
CONDENSING UNIT
ICU 100, 135 & 170 3PH
DRG. No. A3LBD141A
BASED ON A3LBD088
SHT 1
OF 1


NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS _ _ _ _ _ _
UNIT | COMPRESSOR | FAN MOTOR
ICU 30 | 2.5A | 0.3A
ICU 40 | 6.2A | 0.7A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
GREY
HP2
LP2
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER
SENSOR
FAN SPEED CONTROL
F1 3.15A
FAN MOTOR
Brown
Blue
Black
G/Y
SET 3 MIN
HP
LP
C1
T1
T2
COMPRESSOR
BASIC UNIT
PE
E
N
L
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
© Eaton-Williams (Millbank) Ltd 2003
DATE 11/6/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
CONDENSING UNIT
ICU 30/40 1PH
PRESSURE SENSING F.S.C.
DRG. No. A3LBD143
BASED ON A3LBD140
SHT 1
OF 1




NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR HAVE INBUILT THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE ARE SHOWN THUS - - - - - - - -
UNIT | COMPRESSOR | FAN MOTOR
ICU 80 | 5.1A | 0.7A
ICU 100 | 6.7A | 0.7A
ICU 135 | 10A | 0.9A
ICU 170 | 13.3A | 0.9A
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
GREY
LP2
HP2
ISOLATOR NON STANDARD OPTION
CRANK-CASE HEATER NON-STANDARD OPTION
SENSOR
FAN SPEED CONTROL
FAN MOTOR
Brown
Black
Blue
F1 3.15A
SET 3 MIN
COMPRESSOR
BASIC UNIT
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL. 01732 866055
DATE 11/6/03
DR'N NJS
APPR NJS
TITLE WIRING DIAGRAM
CONDENSING UNIT
ICU 80, 100, 135 & 170 3PH
DRG. No. AJLBD145
BASED ON AJLBD141
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
© Eaton-Williams (Millbank) Ltd 2003


EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL 01732 866055
DATE 8/7/03
DRN NJS
APPR NJS
TITLE WIRING DIAGRAM
HEAT PUMP
ICU 80, 100, 135 &
170 3PH
DRG. No. A2LBD146
SHT 1
OF 1
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DRN
APPR
FAN SPEED CONTROL
SENSOR
FAN MOTOR
COMPRESSOR
REVERSING VALVE
DEFROST STAT
BASIC UNIT
ISOLATOR NON STANDARD OPTION
CUSTOMER ALARMS
HP/LP ALARM NON STANDARD OPTION
TERMINAL BLOCK
NOTES
UNIT
COMPRESSOR
FAN MOTOR
ICU 80
ICU 100
ICU 135
ICU 170


TITLE WIRING DIAGRAM HEAT PUMP ICU 40, 55 80 & 100 1PH
DRG. No. A2LBD147
SHT 1
OF 1
DATE 10/7/03
DR'N NJS
APPR NJS
EATON-WILLIAMS
STATION ROAD
EDENBRIDGE
KENT TN8 6EG
TEL 01732 866055
ISS
MODIFICATION (MODIFY ON CAD SYSTEM ONLY)
DATE
DR'N
APPR
CUSTOMER ALARMS
TERMINAL BLOCK
HP/LP ALARM NON STANDARD OPTION
ISOLATOR NON STANDARD OPTION
DISABLE CHOKE NON-STANDARD OPTION
FAN SPEED CONTROL
SENSOR
REVERSING VALVE
DEFROST SEAL
FAN MOTOR
COMPRESSOR
BASIC UNIT
NOTES:
1) IF IN DOUBT PLEASE ASK.
2) FAN & COMPRESSOR MAY REQUIRE THERMAL CUT-OUT.
3) SYSTEM INTERCONNECTIONS TO BE MADE ON SITE AS SHOWN THUS
UNIT | COMPRESSOR | FAN MOTOR
ICU 40 | 5.3A | 0.7A
ICU 55 | 8A | 0.7A
ICU 80 | 15.2A | 0.7A
ICU 100 | 23.5A | 0.7A

STATION ROAD
EDENBRIDGE
KENT
TN8 6EG
TEL: (01732) 866066
FAX:(01732) 867937

AN EATON-WILLIAMS COMPANY