

AIR CONDITIONING

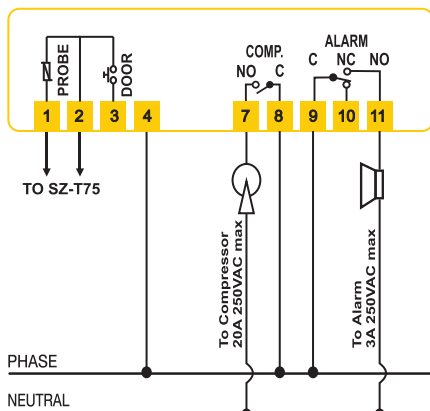
SZ-7548T	Panel AC Controller
SZ-7590T	Bus Airconditioning Controller
SZ-7590P	



FEATURES	SZ-7548T	SZ-7590T	SZ-7590-P
Display	7 Segment LED Display, 2x17mm (0.66")	7 Segment LED Display, 2x17mm (0.66")	2 X 14.2 mm (0.56") LED.
Power Supply	230Vac	12VDC / 24VDC	12Vdc or 24Vdc
Probe Input	NTC	NTC	
Power Transistor Output	-	12V DC, 1.5A (Comp, Fan High, Fan Medium, Fan Low)	12V DC, 1.5A (Comp, Fan High, Fan Medium, Fan Low)
Digital Input	Door (Potential Free)	-	-
Temperature Range	-9°C to +99°C	0°C to 90°C	0°C to 70°C
Temperature Resolution	1°C	1°C	1°C
Relay Output	Compressor : 20A	-	-
Alarm Output	Alarm 3A	-	-
Size	78x36mm	78x36mm	75x34.5 mm
Mounting Type	Panel Mount	Panel Mount	Panel Mount
Panel Cutout	71x29mm	71x29mm	71x29mm
Application	Panel A/C, Oil cooler, Packaged A/C Bus Air Conditioning		

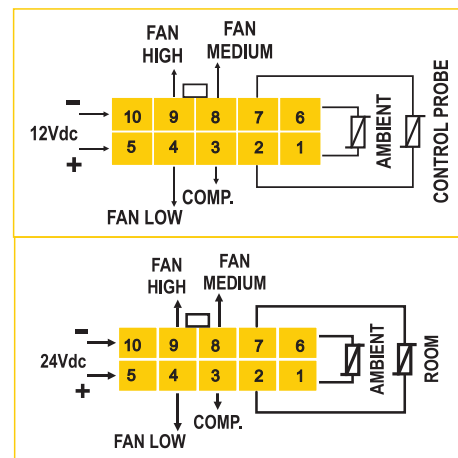
Connection Diagram

SZ-7548T



Caution : Wiring Shown for 230Vac Loads Only.

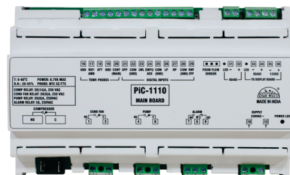
SZ-7590T/SZ-7590-P



Controlled cooling, always

CHILLER / AIR CONDITIONING

PiC-1110	Single Phase, 1 Compressor, Split Type Process Chiller Controller
PiC-3140	Three Phase, 1 Compressor, Split Type Process Chiller Controller



FEATURES	PiC-1110	PiC-3140
Display	7 Segment Display 4x16.5mm (0.65") Red + 4x9mm (0.35") Amber	7 Segment Display 4x16.5mm (0.65") Red + 4x9mm (0.35") Amber
Power Supply	230Vac, +/- 10%, 50Hz/60Hz (Relay Board) 12Vdc (Display Board)	230Vac, +/- 10%, 50Hz/60Hz (Relay Board) 12Vdc (Display Board)
Probe Input	3 NTC : Control (Main), Antifreeze, Reference/ Ambient	3 NTC : Control (Main), Antifreeze, Reference/ Ambient
Flow Sensor Input	2 to 25 LPM (for 1/2"), 2 to 60 LPM (for 3/4"), 2 to 120 LPM (for 1.25"), 5 to 200 LPM (for 1.5"), 10 to 300 LPM (for 2")	2 to 25 LPM (for 1/2"), 2 to 60 LPM (for 3/4"), 2 to 120 LPM (for 1.25"), 5 to 200 LPM (for 1.5"), 10 to 300 LPM (for 2")
Digital Input	HP, LP, SP,PR, EWFS, LWL, Remote Input (Potential Free)	HP, LP, SP,PR, EWFS, LWL, Remote Input (Potential Free)
Temperature Range	-30.0°C to +80.0°C	-30.0°C to +80.0°C
Temperature Resolution	0.1°C / 1°C	0.1°C / 1°C
Relay Output	Compressor : 20(14)A Condenser Fan : 20(8)A Pump : 20(8)A	Compressor Relay for Contactor 5A Condenser Fan1 Relay for Contactor 5A Condenser Fan2 Relay for Contactor 5A Pump Relay for Contactor 5A
Alarm Output	Alarm : 5A	Alarm : 5A
CT Input	CT1 : Pump 0.0A to 8.0A CT2 : Condenser Fan 0.0A to 8.0A CT3 : Compressor 0.0A to 14.0A	CT1 : Pump 0.0A to 20.0A / 50.0A / 100.0A CT2 : Configurable 0.0A to 20.0A / 50.0A / 100.0A CT3 : Configurable 0.0A to 20.0A / 50.0A / 100.0A CT4 : Compressor 0.0A to 20.0A / 50.0A / 100.0A
Serial Output	RS-485	RS-485
Size	Display Board : 96x48mm Relay Board : 110x175mm	Display Board : 96x48mm Relay Board : 110x175mm
Mounting Type	Display Board : Panel Mount Relay Board : Dinrail Mount	Display Board : Panel Mount Relay Board : Dinrail Mount
Panel Cutout	Display Board : 91x45.5mm	Display Board : 91x45.5mm
Application	Process Chiller	

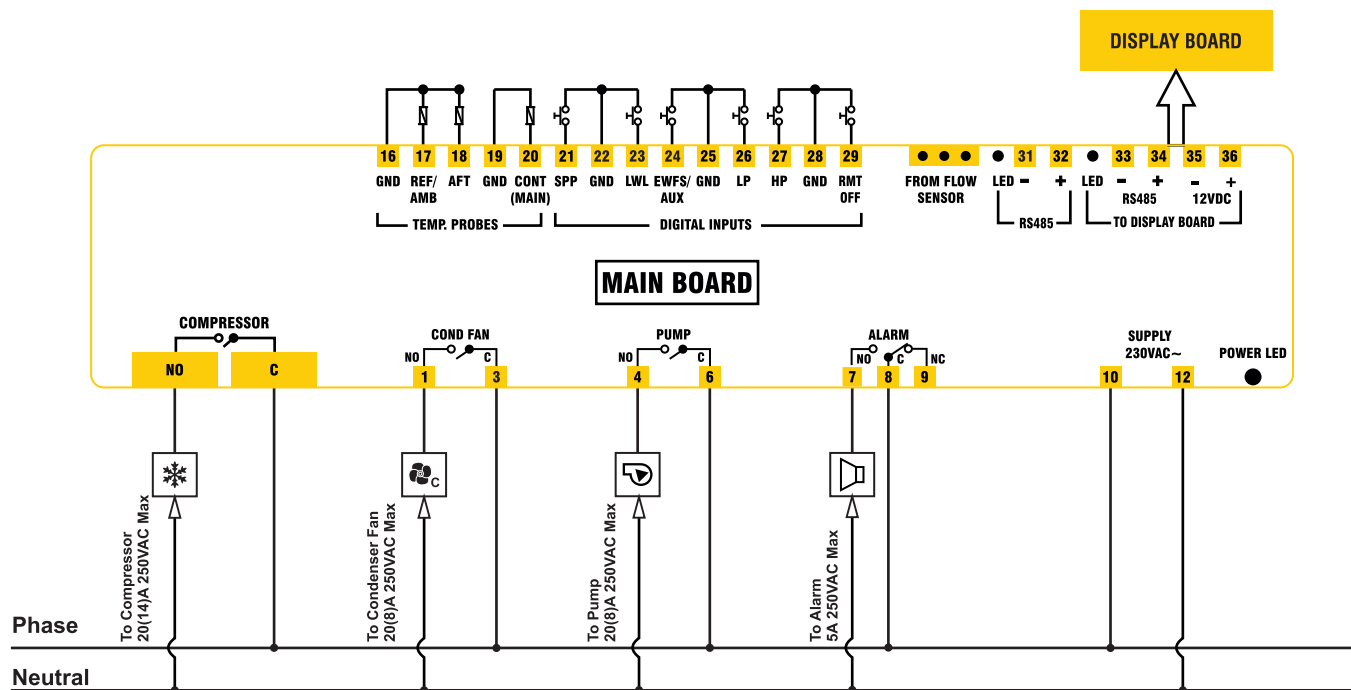


Controlled cooling, always

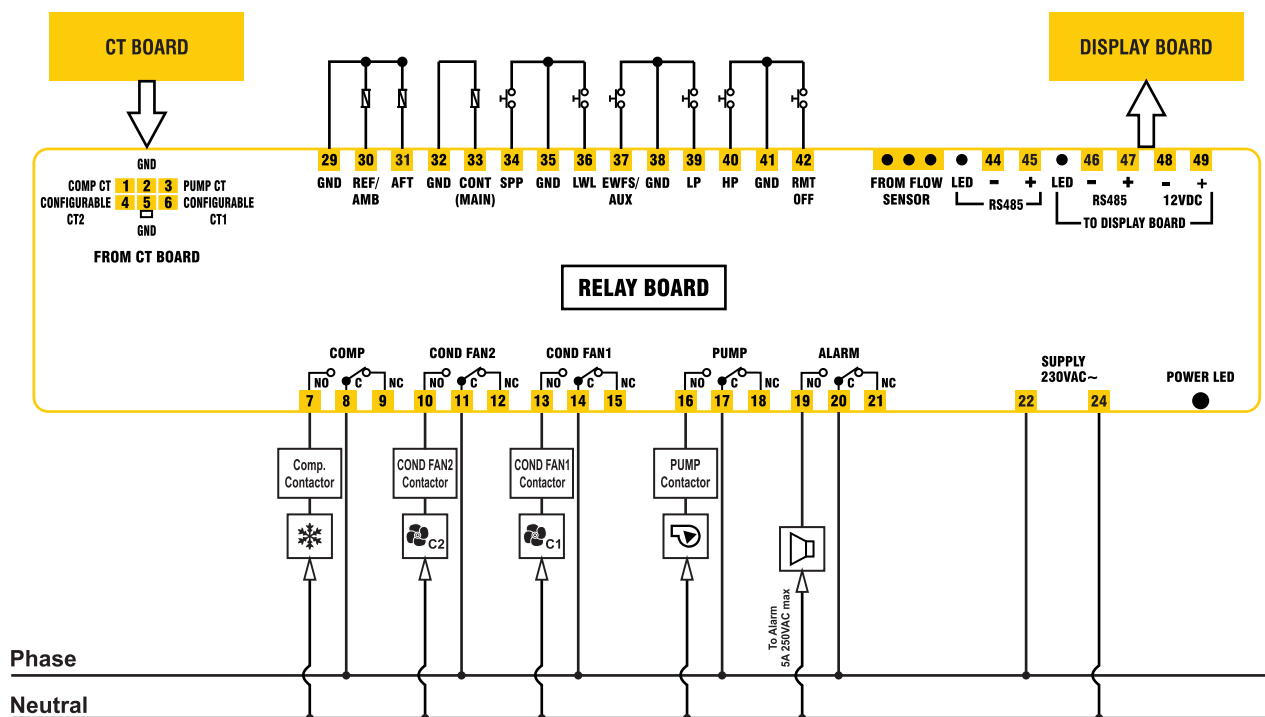
CHILLER / AIR CONDITIONING

Connection Diagram

PiC-1110



PiC-3140



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2 COMPRESSOR, ANALOG O/P, MODBUS

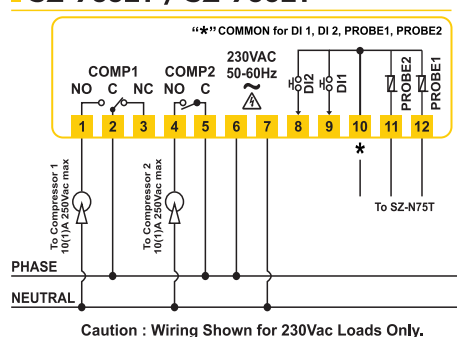
SZ-7552T	Controller for Two Compressors (Range: 0.0°C to +50.0°C)
SZ-7562T	Controller for Two Compressors (Range: -40.0°C to +99.0°C)
SZ-7526TX	Touch sensitive Temperature Controller with TTL Connectivity.



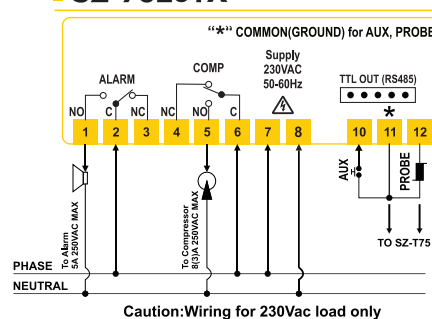
FEATURES	SZ-7552T	SZ-7562T	SZ-7526TX
Display	7 Segment LED Display, 3x17mm (0.66")	7 Segment LED Display, 3x17mm (0.66")	7 Segment LED Display, 2x17mm (0.66") 1 x11mm (0.43")
Power Supply	230Vac	230Vac	230 Vac ± 15%, 56-60Hz
Probe Input	NTC	NTC	NTC
Digital Input	Compressor1 Fault, Compressor2 Fault (Potential Free)	Compressor1 Fault, Compressor2 Fault (Potential Free)	AUX Digital Input for Compressor or Door Open Fault
Temperature Range	0.0°C to +50.0°C	-40.0°C to +99.0°C	-45.0°C to 100°C
Temperature Resolution	0.1°C / 1°C	0.1°C / 1°C	0.1°C / 1°C
Relay Output	Compressor1 : 10(1)A Compressor2 : 10(1)A	Compressor1 : 10(1)A Compressor2 : 10(1)A	Comp SPDT relay 8(3)A, 250V AC Alarm SPDT relay 5A, 250V AC
Serial Output	-	-	TTL
Size	78x36mm	78x36mm	78x36mm
Mounting Type	Panel Mount	Panel Mount	Panel Mount
Panel Cutout	71x29mm	71x29mm	71x29mm
Application	2 Independent cooling units with One Temperature Sensor		Temp controller with defrost

Connection Diagram

SZ-7552T / SZ-7562T



SZ-7526TX



Controlled cooling, *always*

ANTIFREEZE, DIFFERENTIAL, BUZZER

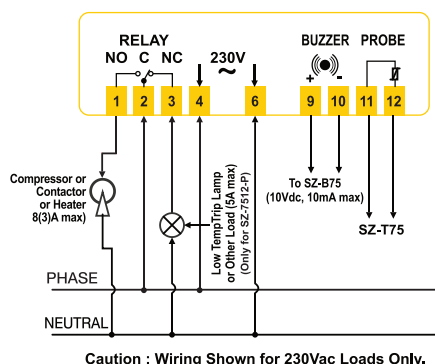
SZ-7512-P	Antifreeze Controller with Manual Defrost
SZ-7556T-D	Temperature Controller with Differential Mode
SZ-7515-P	Temperature Controller with Buzzer
SZ-7525T-DI	Temperature Controller with Digital Input, Defrost & Buzzer



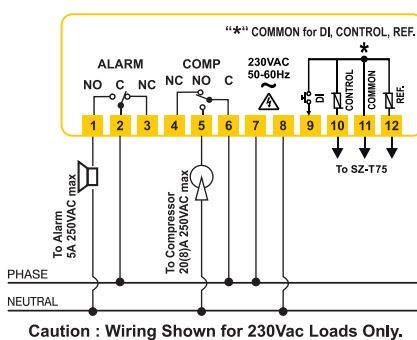
FEATURES	SZ-7512-P	SZ-7556T-D	SZ-7515-P	SZ-7525T-DI
Display	7 Segment LED Display, 2x14.2mm (0.56")	7 Segment LED Display, 3x17mm (0.66")	7 Segment LED Display, 2x14.2mm (0.56")	7 Segment LED Display, 2x17mm (0.66") 1x11mm (0.43")
Power Supply	230Vac	230Vac	230Vac	230Vac
Probe Input	NTC	NTC	NTC	NTC
Digital Input	-	-	-	Compressor Fault (Potential Free)
Temperature Range	-50°C to +50°C	-30.0°C to +80.0°C	-45°C to +99°C	-45.0°C to +100°C
Temperature Resolution	1°C	0.1°C / 1°C	1°C	0.1°C / 1°C
Relay Output	Compressor 8(3)A	Compressor 20(8)A	Compressor 8(3)A	Compressor 20(8)A
Alarm Output	External Buzzer	Alarm 5A	External Buzzer	External Buzzer
Size	75x34.5mm	78x36mm	75x34.5mm	78x36mm
Mounting Type	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Panel Cutout	71x29mm	71x29mm	71x29mm	71x29mm
Application	Chiller Machines	Oil Chillers, Panel A/C's & similar applications	Chiller Machines, Lab Equipments, Display Cabinets	Small Cold Rooms, Freezers

Connection Diagram

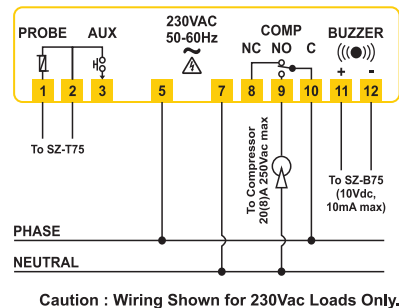
SZ-7512-P/ SZ-7515-P



SZ-7556T-D

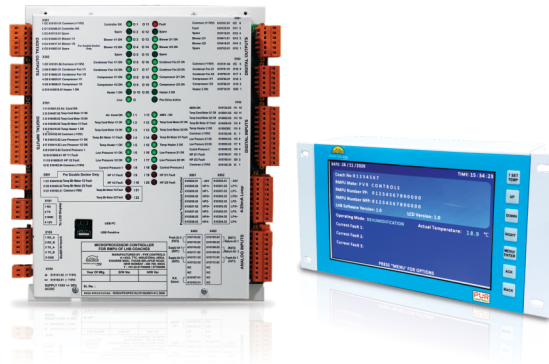


SZ-7525T-DI



Controlled cooling, always

AIR CONDITIONING (RAILWAYS)



FEATURES	RMPU
Display	Colour Graphical LCD Display
Power Supply	110±30% VAC/DC(Protected by fast acting fuse)
Probe Input	6 NTC x Fresh Air, Supply Air, Return Air temperature sensing
Pressure Transducer	8x4-20mA DC Current Loop
Humidity Sensor	1xInput capacitive Hygrostat
Digital Input	22 x In galvanic isolated [110±30%VDC/AC(Coil Inputs)] Opto-Isolated switching
Digital Output	20 x In Galvanic Isolated [Relay Contacts switching (Normally Open Contacts)]
Serial Output	RS-232 (for LCD Display), RS-485 (for Multiple Units Inter-connectivity)
Passed with IEC Standard	IEC 60571 : Dry test , Bump test , Cooling Test, Burn-In test on populated PCB IS:513 : Specification for cold rolled low carbon steel sheets & strips IS 1572-68 : Specification for electroplated coatings of cadmium on iron and steel IEC 61373 : Vibration and shocks test IEC 61000 : EMI/EMC Compatibility, Surge , ESD, Radiated Susceptibility test IEC 60529 : Degree of protection provided by enclosures(IP Code) IEC 60068 : Environmental testing Insulation Resistance Test : Yes
Size	Display Board : 240x120x 40mm Main Board : 260x325x65mm
Mounting Type	Display Board : Panel Mount Main Board : Wall Mount
Panel Cutout	Display Board : 197x120mm
Application	Air-conditioning in LHB coaches & Power Cars



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CHILLER / AIR CONDITIONING

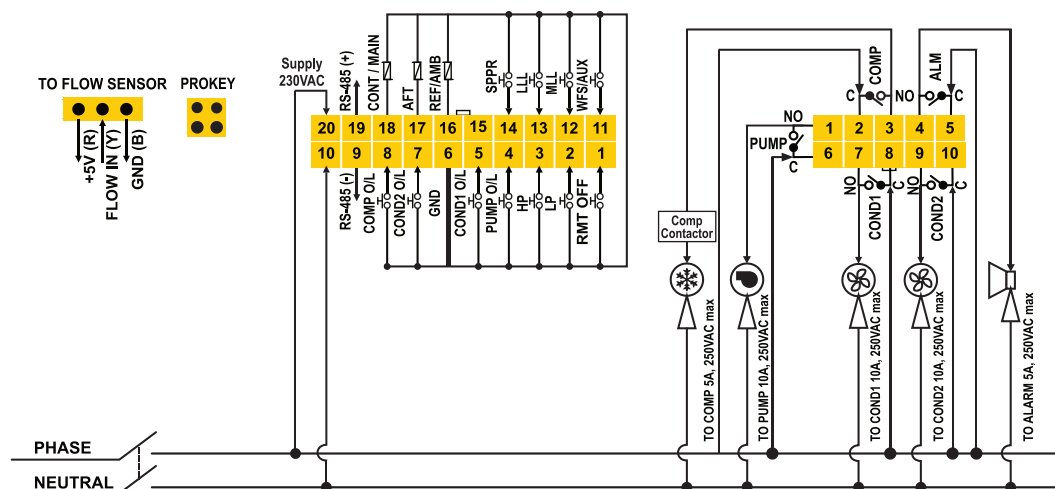
PiC-177

1 Compressor Chiller Controller with Dual Display & Communication



FEATURES	PiC-177
Display	7 Segment Display, 4x8.6mm (0.33") Red + 4x4.9mm (0.27") Amber
Power Supply	90-300 Vac
Probe Input	4 NTC : Control (Liquid), Antifreeze, Probe1, Probe2
Flow Sensor Input	2 to 25LPM(for ½"), 2 to 60 LPM (for ¾"), 2 to 120 LPM(for 1.25"), 5 to 200 LPM(for 1.5"), 10 to 300 LPM(for 2")
Digital Input	Cond Fan OL, AUX, EWFS, PUMP OL, COMP OL, RMT, SPP, LWL, HP, LP, MWL (Potential Free)
Temperature Range	-30.0°C to +100°C
Temperature Resolution	0.5°C
Relay Output	Compressor Contactor : 5A Fan : 10A Pump : 10A AUX: 10A
Alarm Output	Alarm : 5A
Serial Output	RS-485
Prokey	Yes
Size	78x36mm
Mounting Type	Panel Mount
Panel Cutout	71x29mm
Application	Process Chiller, Heat Pump

PiC-177



Caution: Wiring for 230Vac load only



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CHILLER / AIR CONDITIONING

NC-110A	1 Compressor Chiller Controller with LCD (res. 0.5°C)
MC-110	1 Compressor Chiller Controller with LCD + LED
SZ-7576	1 Compressor Controller for Three Package A/C



FEATURES	NC-110A	MICROCHILL	SZ-7576
Display	16x2 LCD	7 Segment LED Display 3x9.1mm (0.36") + 16x2 LCD	7 Segment LED Display 2x14.2mm (0.56")
Power Supply	230Vac	230Vac	230Vac
Probe Input	NTC	NTC	NTC
Digital Input	HP, LP, AUX (Potential)	HP, LP, Comp O/L, Pump O/L, SPP, Cond O/L, EWFS, CWFS trip protection for Compressor (Potential)	HP / LP1 Trip, HP / LP2 Trip, HP / LP3 Trip, HP / LP1 OK HP / LP2 OK, HP / LP3 OK, Cond1 ON, Cond2 ON, Cond3 ON, BLR ON
Temperature Range	-30.0°C to +50.0°C	-30.0°C to +70.0°C	0°C to +50°C
Temperature Resolution	0.5°C	0.5°C	1°C
Relay Output	Compressor : 8(3)A Pump : 5A Water SV or Alarm 5A	Compressor : 8(3)A Pump : 5A Water SV 5A or Alarm	Compressor1 : 8(2)A Compressor2 : 8(2)A Compressor3 : 8(2)A Condenser1 : 8(2)A Condenser2 : 8(2)A Condenser3 : 8(2)A Blower : 8(2)A
Alarm Output	-	Internal Buzzer	-
Size	106.2x50mm	96x96mm	96x96mm
Mounting Type	Panel Mount	Panel Mount	Panel Mount
Panel Cutout	92x45mm	92x92mm	92x92mm
Application	Process Chiller	Process Chiller	Package A/C Units

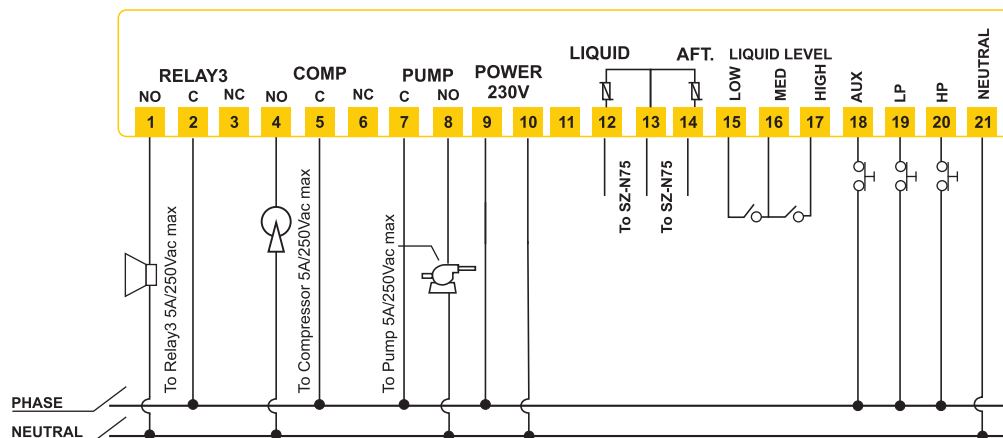


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CHILLER / AIR CONDITIONING

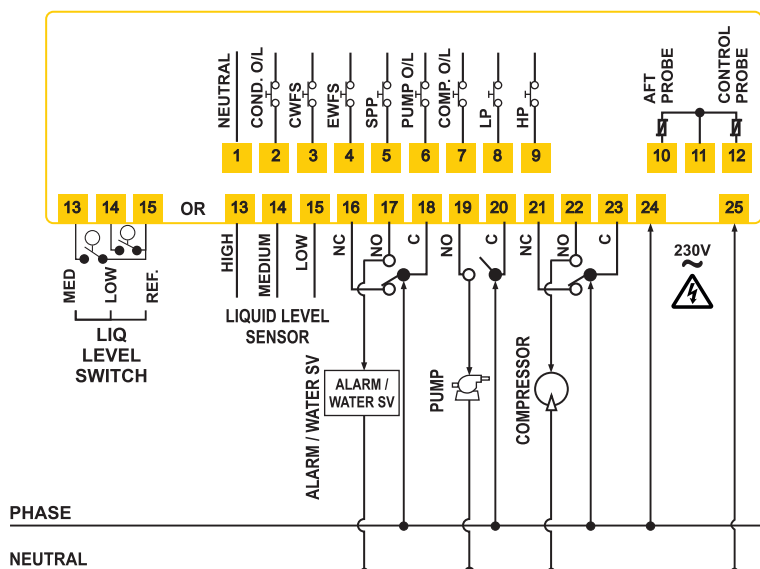
Connection Diagram

NC-110A



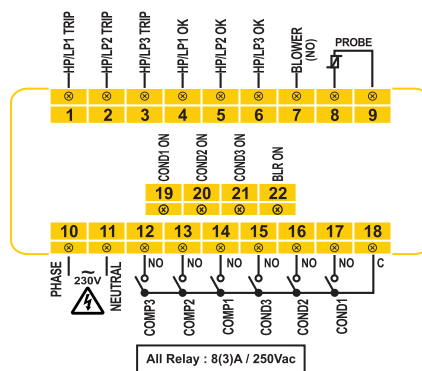
Caution: Wiring for 230Vac load only

MICROCHILL



Caution: Wiring for 230Vac load only

SZ-7576



All Relay : 8(3)A / 250Vac



Controlled cooling, always

CHILLER / AIR CONDITIONING

Megachill Pro 1 Compressor 1 Compressor Chiller Controller with 7" Touch Screen Display
Megachill Pro 2 Compressor 2 Compressor Chiller Controller with 7" Touch Screen Display



FEATURES	Megachill Pro 1 Compressor	Megachill Pro 2 Compressor
Display	7" HMI Touch Display	7" HMI Touch Display
Power Supply	24V ac/dc	24V ac/dc
Probe Input	5 NTC : CHW OUT, CHW IN, AFT, CWC OUT, CWC IN	6 NTC : CHW OUT, CHW IN, AFT1, AFT2, CWS OUT, CWS IN
Analog Input	HP, LP (4-20mA) CT COMP, Total Current (5VDC)	HP1, HP2, LP1, LP2 (Compressor Current, Total current (5VDC)
Digital Input	HP, LP, OSS, AFT, COMP OL, PUMP OL, COND OL, SPPR, CWFS, EWFS, Water Level Medium, Water Level Low, R, Y, B (Potential)	HP1, LP1, OSS1, AFT, COMP1 OL, PUMP1 OL, COND1 OL, HP2, LP2, OSS2, COMP2 OL, PUMP2 OL, COND2 OL, SPPR, CWFS, EWFS, R, Y, B Water Level Medium, Water Level Low (Potential)
Temperature Range	-30.0°C to +80.0°C	-30.0°C to +80.0°C
Temperature Resolution	0.1°C	0.1°C
Relay Output	CHW Pump : 5A Condenser Fan : 5A Compressor : 5A LSV : 5A WSV : 5A Heater : 5A Condenser Fan/P : 5A	CHW Pump : 5A Condenser Fan1 : 5A Condenser Fan2 : 5A Compressor1 : 5A Compressor2 : 5A LSV1 : 5A LSV2 : 5A WSV : 5A Heater : 5A Condenser Fan1/P : 5A Condenser Fan2/P : 5A
Alarm Output	Alarm 5A	Alarm 5A
Serial Output	RS-485	RS-485
Size	204mmx145mmx44.5mm (7" HMI) 325x120mm (Relay Board)	204mmx145mmx44.5mm (7" HMI) 325x120mm (Relay Board)
Mounting Type	Panel Mount (HMI) Dinrail Mount (Relay Board)	Panel Mount (HMI) Dinrail Mount (Relay Board)
Panel Cutout	192mmx138mm (7" HMI)	192mmx138mm (7" HMI)
Application	Process Chillers - Scroll, Centrifugal, Reciprocating	

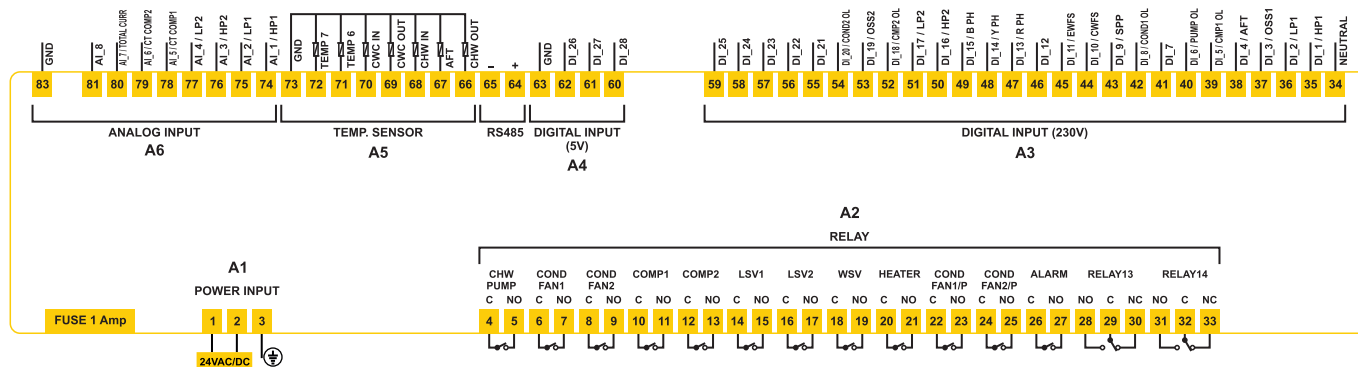


Controlled cooling. *always*

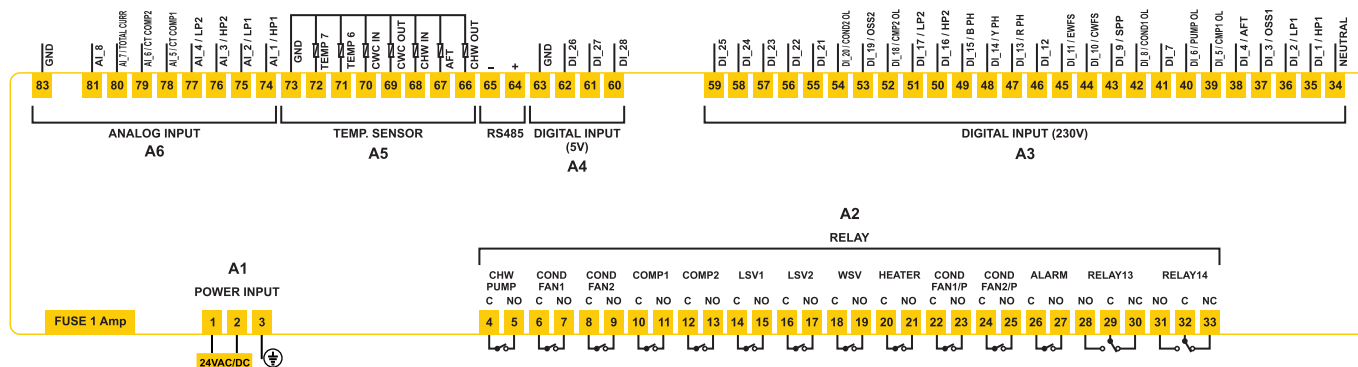
CHILLER / AIR CONDITIONING

Connection Diagram

Megachill Pro 1 Compressor



Megachill Pro 2 Compressor



Controlled cooling, always