



**TELEDYNE**  
ADVANCED POLLUTION INSTRUMENTATION  
A Teledyne Technologies Company

## Manual Addendum

# ***Model T360U*** ***CO<sub>2</sub> Analyzer***

**(Addendum to T360 Manual, PN 07272)**

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## **ABOUT THIS ADDENDUM**

This addendum, part number 07273, is to be used in conjunction with the Model T360 operation manual, part number 07272. Where operation of the Model T360U diverges from that of the Model T360, this addendum takes precedence.

Please note that the T360 operation manual contains important SAFETY messages and the WARRANTY information for this instrument. It is strongly recommended that you read the T360 operation manual in its entirety as well as this addendum, before operating the instrument.

## **REVISION HISTORY**

<b>Date</b>	<b>Rev</b>	<b>DCN</b>	<b>Change Summary</b>
09 July 2013	A	6707	T-Series initial release

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# 1. OVERVIEW

The Model T360U is a close derivative of the Model T360 CO Analyzer. The main differences are as follows:

- The optical bench is longer (14 m), making the instrument more sensitive at low CO<sub>2</sub> levels.
- The instrument has a user-selectable full scale range of 0-100 PPB to 0-100 PPM of CO<sub>2</sub>.
- The rear panel has an extra pneumatic port for the exhaust of the purge gas to the GFC wheel.

Because the T360U is a close derivative of T360, the Model T360 Operation Manual continues to be valid as the reference manual covering the details of the instrument's components and operation.

# 2. SPECIFICATIONS AND AGENCY APPROVALS

Table 2-1 presents the specification parameters and values, as well as agency approvals.

**Table 2-1. T360U Specifications and Agency Approvals**

PARAMETER	SPECIFICATION
Ranges	User selectable to any full scale range from 0-100 ppb to 0-100 ppm
Measurement Units	ppb, ppm, µg/m <sup>3</sup> , mg/m <sup>3</sup> (user selectable)
Zero Noise	≤ 2.5 ppb RMS <sup>(1)</sup>
Span Noise	< 0.5% of reading RMS over 5 ppm <sup>(1)(3)</sup>
Lower Detectable Limit	< 5 ppb <sup>(1)</sup>
Zero Drift (24 hours)	< 0.25 ppm <sup>(2)</sup>
Span Drift (24 hours)	< 0.5% of reading <sup>(2)(4)</sup>
Linearity	1% of full scale <sup>(5)</sup>
Precision	0.5% reading <sup>(1)(5)</sup>
Lag Time	<10 sec <sup>(1)</sup>
Rise/Fall Time	<60 sec to 95% <sup>(1)</sup>
Sample Flow Rate	800 cc/min. ± 10%
Temperature Range	5 - 40°C operating
Humidity Range	0-95% RH, Non-Condensing
Temp Coefficient	< 0.05 % of reading per °C (5 ppb/°C minimum)
Voltage Coefficient	< 0.05 % of reading per V
Dimensions (HxWxD)	7" x 17" x 23.5" (178 mm x 432 mm x 597 mm)
Weight	40 lb (18.1 kg)

<b>PARAMETER</b>	<b>SPECIFICATION</b>
AC Power	100 – 120V 50/60 Hz (120W) 220 – 240 V 50/60 Hz (144W)
Environmental Conditions	Installation Category (Over voltage Category) II Pollution Degree 2
Standard I/O	1 Ethernet: 10/100Base-T 2 RS-232 (300 – 115,200 baud) 2 USB device ports 8 opto-isolated digital status outputs 6 opto-isolated digital control inputs 4 analog outputs
Optional I/O	1 USB com port 1 RS485 8 analog inputs (0-10V, 12-bit) 4 digital alarm outputs Multidrop RS232 3 4-20mA current outputs
Analog Output Resolution	1 part in 4096 of selected full-scale voltage
Certifications	CE: IEC 61010-1:2001, EN61326 - Class A
<sup>1</sup> As defined by the USEPA <sup>2</sup> At constant temperature and voltage <sup>3</sup> Or 0.2 ppm, whichever is greater <sup>4</sup> Or 0.1 ppm, whichever is greater <sup>5</sup> Above 10 ppm range, otherwise 0.2 ppm for lower ranges	

### 3. ELECTRICAL CONNECTIONS

Follow the instructions for unpacking, inspecting, and making electrical connections presented in the T360 operation manual.



# 4. PNEUMATIC CONNECTIONS

This section provides information on the pneumatic configurations. Figure 4-1 shows the basic pneumatic flow of the T360U.

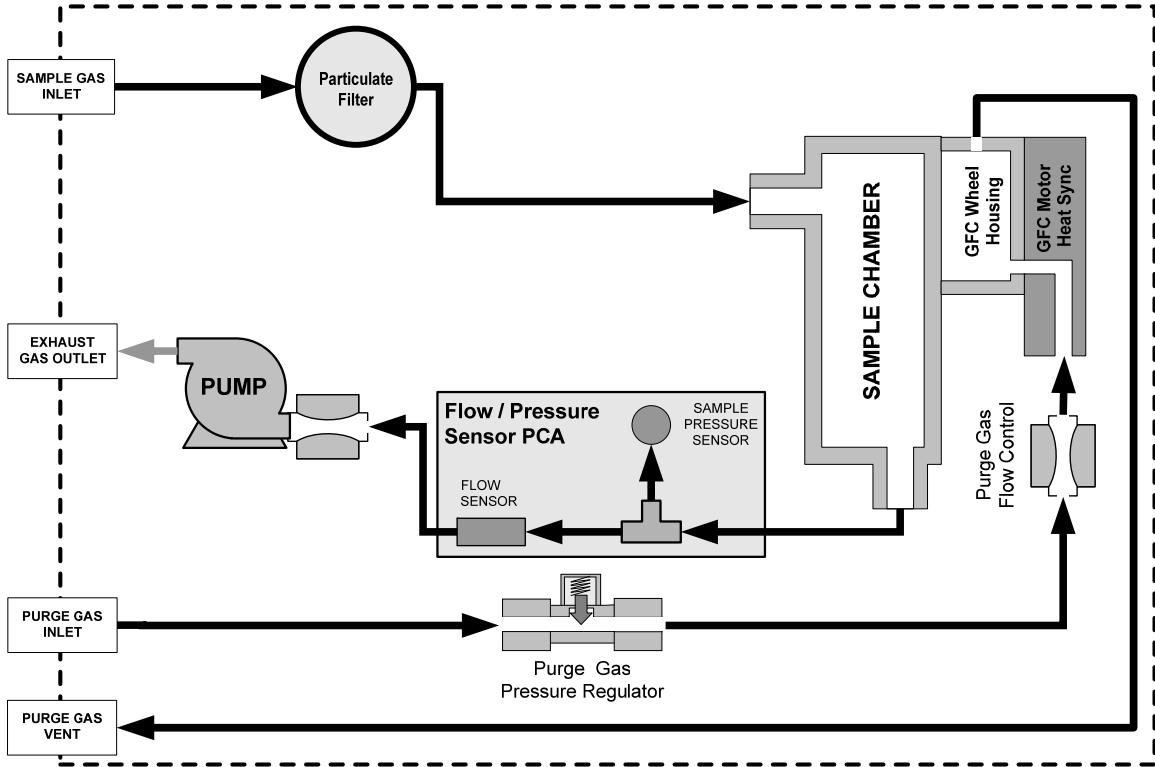


Figure 4-1. T360U Pneumatic Flow Diagram

## 4.1. BASIC AND ZERO/SPAN VALVE OPTION CONFIGURATIONS

	<p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;"><b>Sample and calibration gases should only come into contact with PTFE (Teflon), FEP, glass, stainless steel or brass.</b></p> <p>Do NOT operate without first removing dust plugs from rear panel fixtures.</p>
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<b>NOTE</b>
<p><b>To prevent dust from entering the gas flow channels, your analyzer was shipped with small plugs inserted into each of the pneumatic fittings on the back panel. Remove these dust plugs and store for future use before proceeding.</b></p>

Figure 4-2 illustrates the most common configuration for gas supply and exhaust lines to the Model T360U Analyzer. Figure 4-3 illustrates the pneumatic connections for optional configuration with zero/span valves. Table 4-1 describes the pneumatic ports.

Note that the flowmeter could also be configured upstream of the instrument. Since most flowmeters are calibrated at ambient pressure, ensure that the flow going through the flow meter is at ambient pressure, when it is placed upstream.

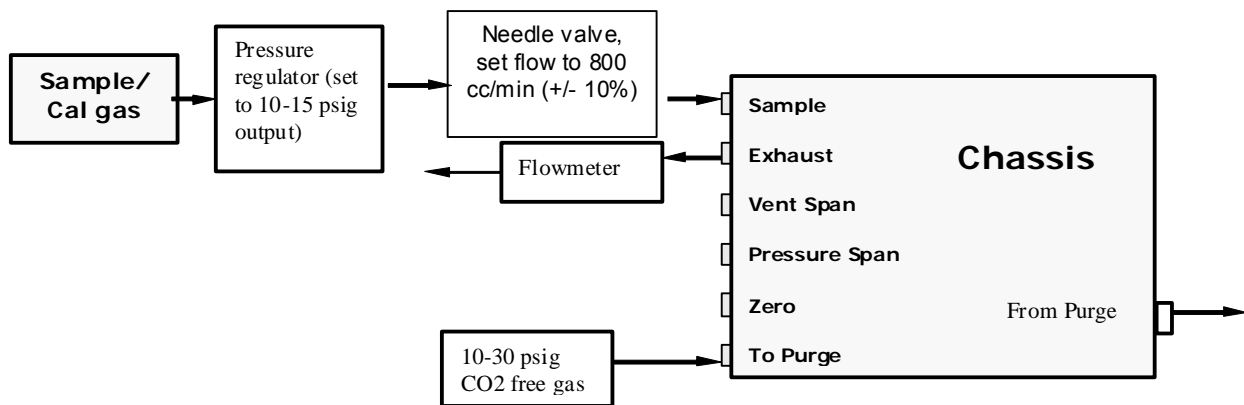


Figure 4-2. Pneumatic Connections—Basic Configuration

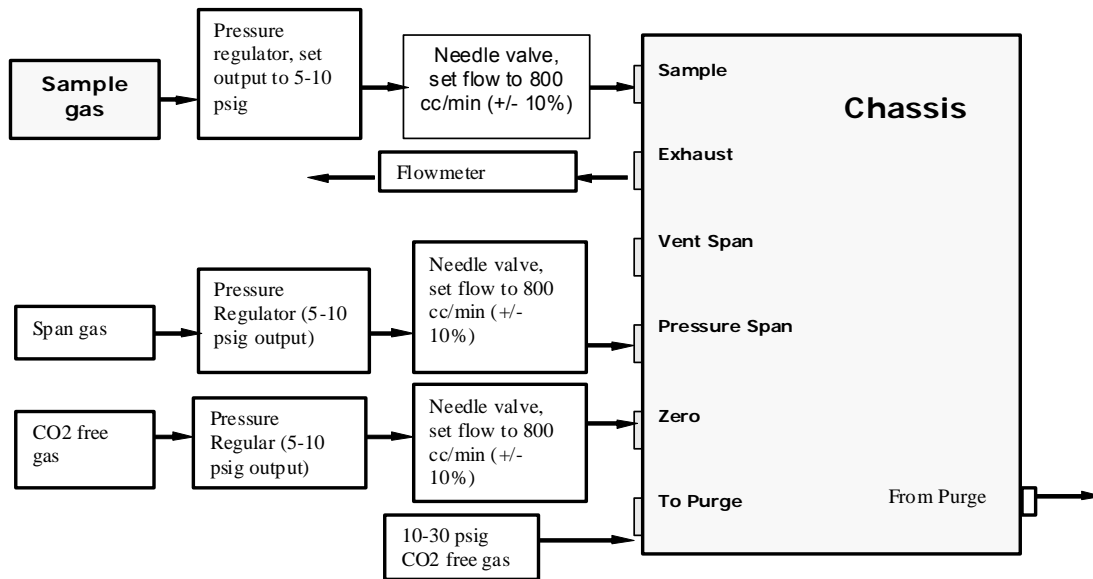



Figure 4-3. Pneumatic Connections—Configuration with Zero/Span Valve Option

Table 4-1. Model T360U Pneumatic Connections

Rear Panel Label	Function
<b>SAMPLE</b>	Connect a gas line from the source of sample gas here. Calibration gasses are also inlet here on units without zero/span valve option installed.
<b>EXHAUST</b>	Connect an exhaust gas line of not more than 10 meters long here.
<b>PRESSURE SPAN</b>	On units with zero/span valve option installed, connect a gas line to the source of calibrated span gas here.
<b>VENT SPAN</b>	Not used
<b>ZERO</b>	On units with zero/span valve option installed, attach a gas line to the source of zero air here.
<b>TO PURGE</b>	This inlet supplies purge air to the GFC wheel housing. Connect a source of dried air that has been scrubbed of CO <sub>2</sub> .
<b>FROM PURGE</b>	This exhausts purge air from the GFC wheel housing. Connect an exhaust gas line of not more than 10 meters long here.

## 4.2. MAKING THE PNEUMATIC CONNECTIONS

	<p style="text-align: center;"><b>CAUTION</b></p> <p>Venting should be outside the shelter or immediate area surrounding the instrument.</p>
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1. Attach a sample inlet line to the sample inlet port. The SAMPLE input line should not be more than 2 meters long.
2. Attach sources of zero air and span gas
3. Span Gas is a gas specifically mixed to match the chemical composition of the type of gas being measured at near full scale of the desired measurement range.

In the case of CO<sub>2</sub> measurements made with the Teledyne Instruments Model T360U Analyzer it is recommended that you use a gas calibrated to have a CO<sub>2</sub> content equaling 80% of the range of compositions being measured.

EXAMPLE: If the application is to measure between 0 ppm and 50 ppm, an appropriate Span Gas would be 40 ppm. If the application is to measure between 0 ppm and 100 ppm, an appropriate Span Gas would be 80 ppm.

Zero Air is similar in chemical composition to the earth's atmosphere but scrubbed of all components that might affect the analyzer's readings. In the case of CO<sub>2</sub> measurements this means CO<sub>2</sub> less than 0.1 ppm of CO<sub>2</sub> and Water Vapor.

Zero Air can be purchased in pressurized canisters or created using a Teledyne Instruments Model 701 Zero Air Generator in combination with a canister of indicating soda-lime.

4. Attach an exhaust line to the exhaust outlet port.

The exhaust from the analyser and vent lines should be vented to atmospheric pressure using maximum of 10 meters of ¼" PTFE tubing.

5. Attach a source of dried air scrubbed of CO<sub>2</sub> to the purge inlet port

The source of purge gas should be at least 10 psig and capable of maintaining a flow of at least 1 liter/min.

Purge source gas pressure should not exceed 30 psig

6. Once the appropriate pneumatic connections have been made, check all pneumatic fittings for leaks.

## 5. RELAY ALARM OUTPUTS (STANDARD CONFIGURATION)

There are 4 relay alarm outputs (AL1-AL4) on the rear panel.

- AL1 is for system okay,
- AL2 is for concentration limit 1 exceeded and
- AL3 is for concentration limit 2 exceeded.
- AL4 is not used

The relay alarm output AL1 is enabled all the time, whereas the AL2 and AL3 can be enabled/disabled by going into the diagnostics menu (with 929 password), then factory options, then turning conc. Alarm Relays ON or OFF.

When the concentration alarm relays are enabled, concentration alarms status is no longer available through the “Status output” pins. So, either the alarm relays or the status bits could be used to monitor the concentration alarms but not both at the same time. The default factory setting is to enable the concentration alarm relays.

The AL1 relay is energized when the system is okay and de-energized when the system has a fault. The AL2 and AL3 relays energize when the corresponding concentration limits are exceeded.

## 6. RELAY ALARM OUTPUTS (AIR PRODUCTS CONFIGURATION)

There are 4 relay alarm outputs (AL1-AL4) on the rear panel.

- AL1 is for “system okay”,
- AL2 is for “high range status” and
- AL3 is for “zero calibration status”
- AL4 is not used

The AL1 relay is energized when the system is okay and de-energized when the system has a fault. The AL2 relay is energized when the high auto-range is in use and AL3 relays energize when the the instrument is in zero calibration mode.

## 7. CONTROL INPUTS (AIR PRODUCTS CONFIGURATION ONLY)

An additional control input is available on this instrument. Control input “C” is used to select the range for remote calibration. When input C is low, the instrument selects high range during contact closure calibration.

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# T360U SPARE PARTS LIST

Ref PN 07460, 05 Apr 2013, 14:24

PARTNUMBER	DESCRIPTION
037600000	AKIT, EXP KIT, SODA LIME CH47
037860000	ORING, TEFLON, RETAINING RING, 47MM (KB)
039060100	ASSY, PRESSURE TRANSDUCER
039260501	DETECTOR, CO2, w/BANDPASS FILTER*
040010000	ASSY, FAN REAR PANEL (B/F)
040030300	PCA, PRESS SENSORS w/SW49
040370000	ASSY, CO SCRUBBER
041350000	PCA, RELAY BOARD, CO(KB)
042680000	ASSY, VALVE (SS)
042690000	ASSY, VALVE , 2-WAY, 12V
042890100	ASSY, PUMP CONFIG PLUG, 100-115V/60 HZ
043250100	ASSY, PWR CONF, 100-120V/60HZ, IR
043250300	OPTION, PWR CONF, 220-240V/50HZ, IR
043250400	OPTION, PWR CONF, 220-240V/60HZ, IR
045930000	ASSY, PURGE REGULATOR
050110000	THERMAL PAD, HEATSINK, CENTER
052560000	PCA, OPTO-INTERRUPTER
052830200	ASSY, MOTOR HUB, MR7
055010000	ASSY, MTR WHL HEATER w/THERM, 200W
058021100	PCA, MOTHERBD, GEN 5-ICOP(KB)
066970000	PCA, INTRF. LCD TOUCH SCRNB, F/P
067240000	CPU, PC-104, VSX-6154E, ICOP *(KB)
067300000	PCA, AUX-I/O BD, ETHERNET, ANALOG & USB
067300100	PCA, AUX-I/O BOARD, ETHERNET
067300200	PCA, AUX-I/O BOARD, ETHERNET & USB
067900000	LCD MODULE, W/TOUCHSCREEN(KB)
068810000	PCA, LVDS TRANSMITTER BOARD
069500000	PCA, SERIAL & VIDEO INTERFACE BOARD
072150000	ASSY. TOUCHSCREEN CONTROL MODULE
072850000	KIT, T360U MANUAL
074610100	DOM, w/SOFTWARE, STD, T360U*
074620100	DOM, w/SOFTWARE, STD,GFC7000TU,AIR PROD*
077480300	ASSY, PMP, INT, Univ-V, 9 OC
037250000	ASSY, STRIP HEATER
036110400	PCA, SYNC DEMOD, (KB)
033560000	MIRROR, FIELD, 32 PASS, (KB)
033520000	MIRROR, OBJECT, 32 PASS, (KB)
032960000	PCA, SYNC DEMOD, PROGRAM, LONG BENCH
019340600	ASSY, SAMPLE THERMISTOR, SS
016910000	AKIT, EXP KIT, CO CATALYST
016300600	ASSY, SAMPLE FILTER, 47MM, ANG BKT, 5UM
016290000	WINDOW, SAMPLE FILTER, 47MM (KB)
010800000	OUTPUT MIRROR, REPLICATED(KB)
010790000	INPUT MIRROR, REPLICATED(KB)
009840300	ASSY, SHUT-OFF VALVE, (KB)
009690100	AKIT, TFE FLTR ELEM (FL6, 30=1) 47mm
009690000	AKIT, TFE FLTR ELEM (FL6 100=1) 47mm
009560201	GF WHEEL, CO2, (KB)
009550500	ASSY, SOURCE

# T360U SPARE PARTS LIST

Ref PN 07460, 05 Apr 2013, 14:24

009450300	ASSY, ZERO/SPAN VALVES, CO
006110200	ASSY, MOTOR WHEEL HEATER
003291500	ASSY, THERMISTOR, BENCH/WHEEL
003290500	ASSY, THERMISTOR, BENCH
001761300	ASSY, FLOW CTRL, .010, 1/8", SS
001760400	ASSY, FLOW CTL, 800CC, 1/4" CONN-B
000941000	CD, ORIFICE, .013 BLUE/GREEN (KB)
000940600	CD, ORIFICE, .010 BROWN (KB)
077490300	ASSY, PMP, INT, 100V, 9 OC
CN0000073	POWER ENTRY, 120/60 (KB)
CN0000458	PLUG, 12, MC 1.5/12-ST-3.81 (KB)
CN0000520	PLUG, 10, MC 1.5/10-ST-3.81 (KB)
FL0000001	FILTER, SS (KB)
HW0000020	SPRING
HW0000036	TFE TAPE, 1/4" (48 FT/ROLL)
HW0000090	SPRING, SS, LONG
HW0000101	ISOLATOR
HW0000379	SEAL, GFC MOTOR
HW0000453	SUPPORT, CIRCUIT BD, 3/16" ICOP
HW0000685	LATCH, MAGNETIC, FRONT PANEL (KB)
KIT000219	AKIT, 4-20MA CURRENT OUTPUT
OP0000009	WINDOW (KB)
OR0000001	ORING, 2-006VT *(KB)
OR0000002	ORING, 2-023V
OR0000034	ORING, 2-011V FT10
OR0000039	ORING, 2-012V (KB)
OR0000041	ORING, 2-136V
OR0000047	ORING, 2-007V
OR0000077	ORING, 2-018V
OR0000088	ORING, 2-011S, 40 DURO
OR0000094	ORING, 2-228V, 50 DURO VITON(KB)
OR0000096	ORING, 2-532V
OR0000097	ORING, 2-119S
PS0000011	PWR SUPPLY, SW, +5V, +/-15V, 40W (KB)
PS0000024	COVER ENCLOSURE KIT,LPX 40/60 (KB)
PS0000025	PWR SUPPLY, SW, 12V, 40W (KB)
PU0000022	REBUILD KIT, FOR PU20 & 04241 (KB)
SW0000025	SWITCH/CIR BRK, VDE, CE *(KB)
SW0000026	SENSOR, PRES, 0-15, PSIA (OBS)
VA0000014	REGULATOR
WR0000008	POWER CORD, 10A



**Interconnect List, T360U**

Reference: 073640100A

Cable PN	Signal	Assembly	FROM			TO			
			PN	J/P	Pin	Assembly	PN	J/P	Pin
<b>03995</b>	<b>CBL, MOTOR TO RELAY PCA</b>								
	GFC Drive - A	Relay PCA	041350000	J6	1	GFC Motor	052380200	P1	1
	GFC Drive - B	Relay PCA	041350000	J6	2	GFC Motor	052380200	P1	2
	Motor Return	Relay PCA	041350000	J6	3	GFC Motor	052380200	P1	3
	Chassis Gnd	Relay PCA	041350000	J6	4	GFC Motor	052380200	P1	4
<b>040230100</b>	<b>CBL, I2C, RELAY BOARD TO MOTHERBOARD</b>								
	I2C Serial Clock	Motherboard	058021100	P107	3	Relay PCA	041350000	P3	1
	I2C Serial Data	Motherboard	058021100	P107	5	Relay PCA	041350000	P3	2
	I2C Reset	Motherboard	058021100	P107	2	Relay PCA	041350000	P3	4
	I2C Shield	Motherboard	058021100	P107	6	Relay PCA	041350000	P3	5
<b>04146</b>	<b>CBL, SYNC DEMOD</b>								
	DGND	Opto Pickup	05032 or 0525	J2	1	Sync Demod	032960000	JP4	6
	Segmentg Gate	Opto Pickup	05032 or 0525	J2	2	Sync Demod	032960000	JP4	5
	No Connection	Opto Pickup	05032 or 0525	J2	3	Sync Demod	032960000	JP4	4
	DGND	Opto Pickup	05032 or 0525	J2	4	Sync Demod	032960000	JP4	3
	M/R Gate	Opto Pickup	05032 or 0525	J2	5	Sync Demod	032960000	JP4	2
	+5V	Opto Pickup	05032 or 0525	J2	6	Sync Demod	032960000	JP4	1
<b>04671</b>	<b>CBL, MOTHERBOARD TO XMITTER BD (MULTIDROP OPTION)</b>								
	GND	Motherboard	058021100	P12	2	Xmitter bd w/Multidrop	069500000	J4	2
	RX0	Motherboard	058021100	P12	14	Xmitter bd w/Multidrop	069500000	J4	14
	RTS0	Motherboard	058021100	P12	13	Xmitter bd w/Multidrop	069500000	J4	13
	TX0	Motherboard	058021100	P12	12	Xmitter bd w/Multidrop	069500000	J4	12
	CTS0	Motherboard	058021100	P12	11	Xmitter bd w/Multidrop	069500000	J4	11
	RS-GND0	Motherboard	058021100	P12	10	Xmitter bd w/Multidrop	069500000	J4	10
	RTS1	Motherboard	058021100	P12	8	Xmitter bd w/Multidrop	069500000	J4	8
	CTS1/485-	Motherboard	058021100	P12	6	Xmitter bd w/Multidrop	069500000	J4	6
	RX1	Motherboard	058021100	P12	9	Xmitter bd w/Multidrop	069500000	J4	9
	TX1/485+	Motherboard	058021100	P12	7	Xmitter bd w/Multidrop	069500000	J4	7
	RS-GND1	Motherboard	058021100	P12	5	Xmitter bd w/Multidrop	069500000	J4	5
	RX1	Motherboard	058021100	P12	9	Xmitter bd w/Multidrop	069500000	J4	9
	TX1/485+	Motherboard	058021100	P12	7	Xmitter bd w/Multidrop	069500000	J4	7
	RS-GND1	Motherboard	058021100	P12	5	Xmitter bd w/Multidrop	069500000	J4	5
<b>06737</b>	<b>CBL, I2C TO AUX I/O PCA (ANALOG IN OPTION)</b>								
	ATX-	Motherboard	058021100	J106	1	AUX I/O PCA	067300000	J2	1
	ATX+	Motherboard	058021100	J106	2	AUX I/O PCA	067300000	J2	2
	LED0	Motherboard	058021100	J106	3	AUX I/O PCA	067300000	J2	3
	ARX+	Motherboard	058021100	J106	4	AUX I/O PCA	067300000	J2	4
	ARX-	Motherboard	058021100	J106	5	AUX I/O PCA	067300000	J2	5
	LED0+	Motherboard	058021100	J106	6	AUX I/O PCA	067300000	J2	6
	LED1+	Motherboard	058021100	J106	8	AUX I/O PCA	067300000	J2	8
<b>06738</b>	<b>CBL, CPU COM to AUX I/O (USB OPTION)</b>								
	RXD1	CPU PCA	067240000	COM1	1	AUX I/O PCA	0673000 or -02	J3	1
	DCD1	CPU PCA	067240000	COM1	2	AUX I/O PCA	0673000 or -02	J3	2
	DTR1	CPU PCA	067240000	COM1	3	AUX I/O PCA	0673000 or -02	J3	3
	TXD1	CPU PCA	067240000	COM1	4	AUX I/O PCA	0673000 or -02	J3	4
	DSR1	CPU PCA	067240000	COM1	5	AUX I/O PCA	0673000 or -02	J3	5
	GND	CPU PCA	067240000	COM1	6	AUX I/O PCA	0673000 or -02	J3	6
	CTS1	CPU PCA	067240000	COM1	7	AUX I/O PCA	0673000 or -02	J3	7
	RTS1	CPU PCA	067240000	COM1	8	AUX I/O PCA	0673000 or -02	J3	8
	RI1	CPU PCA	067240000	COM1	10	AUX I/O PCA	0673000 or -02	J3	10
<b>06738</b>	<b>CBL, CPU COM to AUX I/O (MULTIDROP OPTION)</b>								
	RXD	CPU PCA	067240000	COM1	1	Xmitter bd w/Multidrop	069500000	J3	1
	DCD	CPU PCA	067240000	COM1	2	Xmitter bd w/Multidrop	069500000	J3	2
	DTR	CPU PCA	067240000	COM1	3	Xmitter bd w/Multidrop	069500000	J3	3
	TXD	CPU PCA	067240000	COM1	4	Xmitter bd w/Multidrop	069500000	J3	4
	DSR	CPU PCA	067240000	COM1	5	Xmitter bd w/Multidrop	069500000	J3	5
	GND	CPU PCA	067240000	COM1	6	Xmitter bd w/Multidrop	069500000	J3	6
	CTS	CPU PCA	067240000	COM1	7	Xmitter bd w/Multidrop	069500000	J3	7
	RTS	CPU PCA	067240000	COM1	8	Xmitter bd w/Multidrop	069500000	J3	8
	RI	CPU PCA	067240000	COM1	10	Xmitter bd w/Multidrop	069500000	J3	10
<b>06739</b>	<b>CBL, CPU ETHERNET TO AUX I/O PCA</b>								
	ATX-	CPU PCA	067240000	LAN	1	AUX I/O PCA	067300100	J2	1
	ATX+	CPU PCA	067240000	LAN	2	AUX I/O PCA	067300100	J2	2
	LED0	CPU PCA	067240000	LAN	3	AUX I/O PCA	067300100	J2	3
	ARX+	CPU PCA	067240000	LAN	4	AUX I/O PCA	067300100	J2	4
	ARX-	CPU PCA	067240000	LAN	5	AUX I/O PCA	067300100	J2	5
	LED0+	CPU PCA	067240000	LAN	6	AUX I/O PCA	067300100	J2	6
	LED1	CPU PCA	067240000	LAN	7	AUX I/O PCA	067300100	J2	7
	LED1+	CPU PCA	067240000	LAN	8	AUX I/O PCA	067300100	J2	8
<b>06741</b>	<b>CBL, CPU USB TO LCD INTERFACE PCA</b>								
	GND	CPU PCA	067240000	USB	8	LCD Interface PCA	066970000	JP9	
	LUSBD3+	CPU PCA	067240000	USB	6	LCD Interface PCA	066970000	JP9	
	LUSBD3-	CPU PCA	067240000	USB	4	LCD Interface PCA	066970000	JP9	
	VCC	CPU PCA	067240000	USB	2	LCD Interface PCA	066970000	JP9	

**Interconnect List, T360U**

Reference: 073640100A

Cable PN	Signal	FROM				TO			
		Assembly	PN	J/P	Pin	Assembly	PN	J/P	Pin
<b>06746</b>	<b>CBL, MB TO 06154 CPU</b>								
	GND	Motherboard	058021100	P12	2	Shield			
	RX0	Motherboard	058021100	P12	14	CPU PCA	067240000	COM1	1
	RTS0	Motherboard	058021100	P12	13	CPU PCA	067240000	COM1	8
	TX0	Motherboard	058021100	P12	12	CPU PCA	067240000	COM1	4
	CTS0	Motherboard	058021100	P12	11	CPU PCA	067240000	COM1	7
	RS-GND0	Motherboard	058021100	P12	10	CPU PCA	067240000	COM1	6
	RTS1	Motherboard	058021100	P12	8	CPU PCA	067240000	COM2	8
	CTS1/485-	Motherboard	058021100	P12	6	CPU PCA	067240000	COM2	7
	RX1	Motherboard	058021100	P12	9	CPU PCA	067240000	COM2	1
	TX1/485+	Motherboard	058021100	P12	7	CPU PCA	067240000	COM2	4
	RS-GND1	Motherboard	058021100	P12	5	CPU PCA	067240000	COM2	6
	RX1	Motherboard	058021100	P12	9	CPU PCA	067240000	485	1
	TX1/485+	Motherboard	058021100	P12	7	CPU PCA	067240000	485	2
	RS-GND1	Motherboard	058021100	P12	5	CPU PCA	067240000	485	3
<b>06809</b>	<b>CBL ASSY, DC POWER TO MOTHERBOARD</b>								
	DGND	Relay PCA	041350000	J14	1	Motherboard	058021100	J15	1
	+5V	Relay PCA	041350000	J14	2	Motherboard	058021100	J15	2
	AGND	Relay PCA	041350000	J14	3	Motherboard	058021100	J15	3
	+15V	Relay PCA	041350000	J14	4	Motherboard	058021100	J15	4
	AGND	Relay PCA	041350000	J14	5	Motherboard	058021100	J15	5
	-15V	Relay PCA	041350000	J14	6	Motherboard	058021100	J15	6
	+12V RET	Relay PCA	041350000	J14	7	Motherboard	058021100	J15	7
	+12V	Relay PCA	041350000	J14	8	Motherboard	058021100	J15	8
	Chassis Gnd	Relay PCA	041350000	J14	10	Motherboard	058021100	J15	9
<b>06810</b>	<b>CBL, DC POWER &amp; SIGNAL DISTRIBUTION</b>								
	+12V RET	Blower Fan 1	058790000		1	Relay PCA	041350000	J12	7
	+12V	Blower Fan 1	058790000		2	Relay PCA	041350000	J12	8
	+12V RET	Blower Fan 2	058790000		1	Relay PCA	041350000	J12	7
	+12V	Blower Fan 2	058790000		2	Relay PCA	041350000	J12	8
	+5V	LCD Interface PCA	066970000	J14	1	Relay PCA	041350000	J12	2
	DGND	LCD Interface PCA	066970000	J14	2	Relay PCA	041350000	J11	1
	+5V	LCD Interface PCA	066970000	J14	3	Relay PCA	041350000	J11	2
	SDA	LCD Interface PCA	066970000	J14	5	Motherboard	058021100	J106	2
	SCL	LCD Interface PCA	066970000	J14	6	Motherboard	058021100	J106	6
		LCD Interface PCA	066970000	J14	7	Motherboard	058021100	J106	1
	DGND	LCD Interface PCA	066970000	J14	8	Relay PCA	041350000	J12	1
	Shield	LCD Interface PCA	066970000	J14	10				
	+12V Ret	Fan	040010000	P1	1	Relay PCA	041350000	J11	7
	+12V	Fan	040010000	P1	2	Relay PCA	041350000	J11	8
	AGND	Flow Module	0400303 or -09	J4	3	Relay PCA	041350000	J11	3
	+15V	Flow Module	0400303 or -09	J4	6	Relay PCA	041350000	J11	4
	Cell Pressure	Flow Module	0400303 or -09	J4	4	Motherboard	058021100	J109	5
	Pump Vacuum	Flow Module	0400303 or -09	J4	2	Motherboard	058021100	J109	6
	Sample Flow	Flow Module	0400303 or -09	J4	5	Motherboard	058021100	J109	2
		Shield				Motherboard	058021100	J109	9
	Measure	Sync Demod	032960000	J3	1	Motherboard	058021100	J109	4
	PD Temp	Sync Demod	032960000	J3	2	Motherboard	058021100	J109	1
	Reference	Sync Demod	032960000	J3	5	Motherboard	058021100	J109	3
	AGND	Sync Demod	032960000	J3	6	Shield			
	Dark Switch	Sync Demod	032960000	J3	4	Motherboard	058021100	J108	16
	Sync Error	Sync Demod	032960000	J3	7	Motherboard	058021100	J108	4
	Etest	Sync Demod	032960000	J3	8	Motherboard	058021100	J108	8
<b>06811</b>	<b>CBL ASSY, BENCH HEATER</b>								
	Wheel Heater	Relay PCA	041350000	P3	1	Wheel Heater	055010000	P1	1
	AC Return	Relay PCA	041350000	P3	4	Wheel Heater	055010000	P1	2
	Bench Htr, 115V	Relay PCA	041350000	P3	2	Bench Htr	037250000	P1	1
	Bench Htr, 230V	Relay PCA	041350000	P3	3	Bench Htr	037250000	P1	2
	AC Return	Relay PCA	041350000	P3	4	Bench Htr	037250000	P1	3
	Chassis Gnd	Relay PCA	041350000	P3	5				
<b>06812</b>	<b>CBL, BLOWER HTR CONFIG</b>								
	Config Jumper	Oven Htr 1	058810000	HTR1	1	Blower Htr Config Plu	059180000	PLUG	1
	Config Jumper	Oven Htr 1	058810000	HTR1	2	Blower Htr Config Plu	059180000	PLUG	2
	Config Jumper	Oven Htr 2	058810000	HTR2	1	Blower Htr Config Plu	059180000	PLUG	4
	Config Jumper	Oven Htr 2	058810000	HTR2	2	Blower Htr Config Plu	059180000	PLUG	5
	Config Jumper	Blower			P4	Blower Htr Config Plu	059180000	PLUG	4
	Config Jumper	Blower			P4	Blower Htr Config Plu	059180000	PLUG	2
	Shield					Blower Htr Config Plu	059180000	PLUG	3
<b>06813</b>	<b>CBL, MOTHERBOARD TO THERMISTORS</b>								
	+5V Ref	Motherboard	058021100	J27	6	Bench Temp Snsr	003290500	P1	1
	Bench Temp	Motherboard	058021100	J27	13	Bench Temp Snsr	003290500	P1	2
	+5V Ref	Motherboard	058021100	J27	5	Wheel Temp Snsr	003291500	P1	1
	Wheel Temp	Motherboard	058021100	J27	12	Wheel Temp Snsr	003291500	P1	2
	+5V ref	Motherboard	058021100	J27	1	Shield			
	+5V Ref	Motherboard	058021100	J27	7	Sample Temp Snsr	019340600	P1	1
	Sample Temp	Motherboard	058021100	J27	14	Sample Temp Snsr	019340600	P1	2
		Motherboard	058021100	J27	2	Oven Thermistor	058800000	P1	1
		Motherboard	058021100	J27	9	Oven Thermistor	058800000	P1	2

**Interconnect List, T360U**

Reference: 073640100A

Cable PN	Signal	FROM				TO			
		Assembly	PN	J/P	Pin	Assembly	PN	J/P	Pin
<b>06814</b>	<b>CBL ASSY, SYNC DEMOD , DC POWER</b>								
	DGND	Relay PCA	041350000	J15	1	Sync Demod	032960000	J2	1
	+5V	Relay PCA	041350000	J15	2	Sync Demod	032960000	J2	2
	AGND	Relay PCA	041350000	J15	3	Sync Demod	032960000	J2	3
	+15V	Relay PCA	041350000	J15	4	Sync Demod	032960000	J2	4
	AGND	Relay PCA	041350000	J15	5	Sync Demod	032960000	J2	5
	-15V	Relay PCA	041350000	J15	6	Sync Demod	032960000	J2	6
	+12V ret	Relay PCA	041350000	J15	7	Blower Fan	058780000	J1	1
	+12V	Relay PCA	041350000	J15	8	Blower Fan	058780000	J1	2
<b>06815</b>	<b>CBL ASSY, AC POWER</b>								
	AC Line	Power Entry	CN0000073		L	Power Switch	SW0000025		L
	AC Neutral	Power Entry	CN0000073		N	Power Switch	SW0000025		N
	Power Grnd	Power Entry	CN0000073			Shield			
	Power Grnd	Power Entry	CN0000073			Chassis			
	AC Line Switched	Power Switch	SW0000025		L	PS2 (+12)	068020000	SK2	1
	AC Neu Switched	Power Switch	SW0000025		N	PS2 (+12)	068020000	SK2	3
	Power Grnd	Power Entry	CN0000073			PS2 (+12)	068020000	SK2	2
	AC Line Switched	Power Switch	SW0000025		L	PS1 (+5, ±15)	068010000	SK2	1
	AC Neu Switched	Power Switch	SW0000025		N	PS1 (+5, ±15)	068010000	SK2	3
	Power Grnd	Power Entry	CN0000073			PS1 (+5, ±15)	068010000	SK2	2
	AC Line Switched	Power Switch	SW0000025		L	Relay	041350000	J1	1
	AC Neu Switched	Power Switch	SW0000025		N	Relay	041350000	J1	3
	Power Grnd	Power Entry	CN0000073			Relay	041350000	J1	2
<b>06816</b>	<b>CBL ASSY, DC POWER</b>								
	+15	PS1	068010000	SK1	6	Relay PCA	041350000	J13	4
	+5	PS1	068010000	SK1	1	Relay PCA	041350000	J13	3
	DGND	PS1	068010000	SK1	3	Relay PCA	041350000	J13	1
	AGND	PS1	068010000	SK1	4	Relay PCA	041350000	J13	5
	-15	PS1	068010000	SK1	5	Relay PCA	041350000	J13	6
	+12	PS2	068020000	SK1	1	Relay PCA	041350000	J13	8
	+12 RET	PS2	068020000	SK1	3	Relay PCA	041350000	J13	7
<b>06817</b>	<b>CBL, RELAY BD TO SOURCE</b>								
	IR Source Drv	Relay PCA	041350000	J16	1	IR Source	009550500	P1	1
	IR Source Drv	Relay PCA	041350000	J16	2	IR Source	009550500	P1	2
<b>06818</b>	<b>CBL ASSY, 12V VALVE CBLs</b>								
	+12	Relay PCA	041350000	J7	6	Zero/Span Vlv	009450500	P1	1
	Zero/Span Drv	Relay PCA	041350000	J7	8	Zero/Span Vlv	009450500	P1	2
	+12	Relay PCA	041350000	J7	2	Samp/Cal Vlv	009450400	P1	1
	Samp/Cal Drv	Relay PCA	041350000	J7	4	Samp/Cal Vlv	009450400	P1	2
	+12	Relay PCA	041350000	J7	1	Shutoff Valve	009450500	P1	1
	Shutoff Vlv	Relay PCA	041350000	J7	3	Shutoff Valve	009450500	P1	2
	+12	Relay PCA	041350000	J7	5	Autoref Valve	009450500	P1	1
	Aref Valve	Relay PCA	041350000	J7	7	Autoref Valve	009450500	P1	2
<b>WR256</b>	<b>CBL, TRANSMITTER TO LCD INTERFACE PCA</b>								
		LCD Interface PCA	066970000	J15		Transmitter PCA	068810000	J1	

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