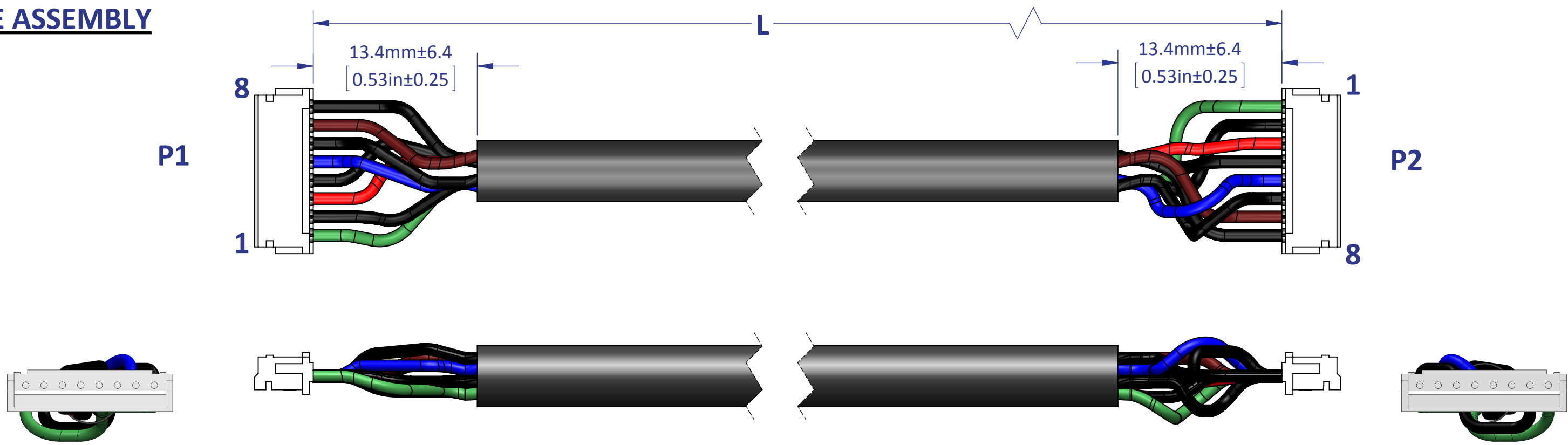


ITEM NO.	PartNo	DESCRIPTION	QTY.
1	JST PN: ZHR-8	Conn Housing ZH 8Pos 1.5mm White	2
2	JST PN: SZH-002T-P0.5	Conn Term Crimp ZH 26-28 Awg	16
3	Custom (N/A)	Twisted Pair Cable	1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
C	CHANGED CABLE ASSEMBLY TO HOOK-UP WIRE/SHRINK TUBING TYPE CONSTRUCTION. ADDED SHEET #4.	2/3/2015	WLI DAA
C1	1) UPDATED FILENAME. 2) CHANGED CABLE LENGTH TOLERANCE TO +0/-25.4mm.	4/1/2015	WLI DAA

CABLE ASSEMBLY



- NOTES:
1. TOLERANCE BLOCK DOES NOT APPLY.
 2. SEE SHEET #2 FOR CABLE ASSEMBLY SPECS.
 3. SEE SHEET #3 FOR CONNECTOR SPECS.
 4. SEE SHEET #4 FOR CABLE + CONNECTORS ASSEMBLY SPECS.

Wire Code		
P1		P2
1	Green	1
2	Black	2
3	Red	3
4	Black	4
5	Blue	5
6	Black	6
7	Brown	7
8	Black	8

CABLE ASSEMBLY PART NUMBERS	
Part Number	Cable Length "L" (tolerance: +0/-25.4mm[1.0in])
1800-0003	304.8mm [12in]
1800-0004	457.2mm [18in]
1800-0005	609.6mm [24in]
1800-0006	762.0mm [30in]
1800-0007	914.4 mm [36in]

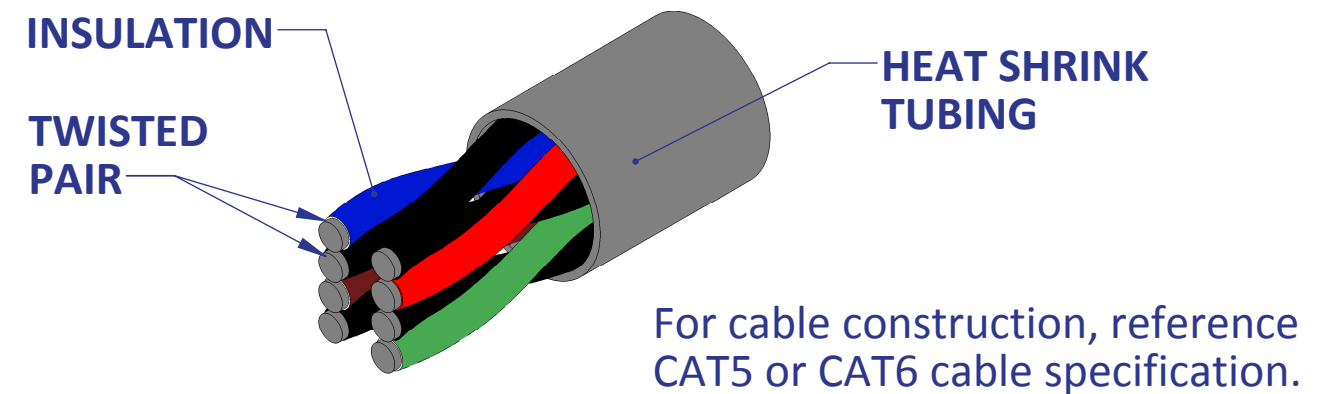
Third Angle Projection DIMENSIONS ARE IN MILLIMETERS TOLERANCES: .X ± 0.5 .XX ± 0.25 .XXX ± 0.10 Angle ± 1°	NAME	DATE	LED Engin, Inc. TITLE: LTP-T and LTC-Q Cable Assembly SIZE B DWG. NO. 1800-000x-P3 REV C1	
	DRAWN	DAA		08/13/14
	CHECKED			
	ENG APPR.			
MATERIAL:	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LED ENGIN, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LED ENGIN, INC. IS PROHIBITED.			
FINISH:	SEE NOTES			
FILE NAME: 1800-000x-P3_Cable-Assy_RevC1			SCALE: 3:1 SHEET 1 OF 4	

CABLE ASSEMBLY SPECIFICATIONS

GENERAL SPECIFICATIONS	
Parameter	Value
Feature, #1	Twisted Pairs (4 pairs)
Feature, #2	UL Listed
Feature, #3	RoHS compliant
Construction	From Hook-up wires, create twisted pairs. Bundle the 4 twisted pairs together with Shrink Tubing. Specs provided below.
Color of Pair 1	Green, Black
Color of Pair 2	Red, Black
Color of Pair 3	Blue, Black
Color of Pair 4	Brown, Black
Temperature Range	-40 °C to 105 °C

HOOK-UP WIRE SPECIFICATION (Referencing Alpha Wire company's part)	
Parameter	Value
Alpha Wire Part Number	6711
General Description	Hookup Wire, 26 (7/34) Awg Tinned Copper
Applicable Specifications (for Reference only)	UL -- AWM/STYLE 11028, 105 °C/600 VRMS, VW-1
	Halogen-Free
	CE: EU Low Voltage Directive 2006/95/EC
	In compliance with EU Directive 2011/65/EU (RoHS2)
Temperature Range (for Reference only)	-40 °C to 105 °C

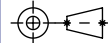
HEAT SHRINK TUBING (Referencing Alpha Wire company's part)	
Parameter	Value
Alpha Wire Part Number	FIT221L3/8
General Description	Heat Shrinkable Tubing. LSZH Polyolefin tubing material. Black Color.
Others	Minimum Supplied ID is 0.375in. Maximum Recovered ID 0.187in. Nominal Recovered Wall thickness is 0.022in
Applicable Specifications (for Reference only)	UL -- Standard 224, 125 °C / 600 VRMS, VW-1
	In compliance with EU Directive 2011/65/EU (RoHS2)



Third Angle Projection DIMENSIONS ARE IN MILLIMETERS TOLERANCES: .X ± 0.5 .XX ± 0.25 .XXX ± 0.10 Angle ± 1°	DRAWN CHECKED ENG APPR. MFG APPR. Q.A.	NAME DAA 	DATE 08/13/14	LED Engin, Inc. TITLE: LTP-T and LTC-Q Cable Assembly (Cable Specification)
	MATERIAL: SEE NOTES	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LED ENGIN, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LED ENGIN, INC. IS PROHIBITED.		
FINISH: N/A	FILE NAME: 1800-000x-P3_Cable-Assy_RevC1		DWG. NO. 1800-000x-P3	REV C1
SCALE: 5:1			SHEET 2 OF 4	

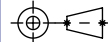
CONNECTOR SPECIFICATIONS

CONNECTOR HOUSING	
PARAMETER	VALUE
Manufacturer	JST Sales America, Inc.
Manufacturer Part Number	ZHR-8
Description	CONN HOUSING ZH 8POS 1.5mm WHITE
Quantity Required per Cable Assembly	2
Distributor	Digi-key
Digi-Key Part Number	455-1199-ND
Temperature Range (for Reference only)	-25 °C to 85 °C
CONNECTOR TERMINAL CONTACT	
PARAMETER	VALUE
Manufacturer	JST Sales America, Inc.
Manufacturer Part Number	SZH-002T-P0.5
Description	CONN TERM CHRIMP ZH 26-28AWG
Quantity Required per Cable Assembly	16
Distributor	Digi-Key
Digi-Key Part Number	455-1130-2-ND

 Third Angle Projection <small>DIMENSIONS ARE IN MILLIMETERS TOLERANCES:</small> .X ± 0.5 .XX ± 0.25 .XXX ± 0.10 Angle ± 1°	NAME	DATE	LED Engin, Inc. LTP-T and LTC-Q Cable Assembly (Connector Specification)	
	DRAWN	DAA		08/13/14
	CHECKED			
	ENG APPR.			
MATERIAL:	PROPRIETARY AND CONFIDENTIAL <small>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LED ENGIN, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LED ENGIN, INC. IS PROHIBITED.</small>		TITLE: LTP-T and LTC-Q Cable Assembly (Connector Specification)	
FINISH:	SEE NOTES			
	N/A			
FILE NAME: 1800-000x-P3_Cable-Assy_RevC1			SIZE: B DWG. NO.: 1800-000x-P3 REV: C1	
SCALE: 2:1			SHEET 3 OF 4	

MINIMUM QUALIFICATION REQUIREMENTS FOR FULLY ASSEMBLED CABLE AND CONNECTOR ASSEMBLY

MECHANICAL REQUIREMENTS		
PARAMETER	REQUIRMENTS	PROCEDURE
Tensile Strength of wire Termination (between hook-up wires and connector terminal contact, after crimping)	> 19.6 N (axial direction)	Apply a pull-off load to terminated wire. Operation Speed to 50mm/min. (Reference: MIL-STD-202)
Contact Retention Force (after crimped wire/terminator has been inserted into connector housing)	> 4.9 N (axial direction)	Apply an axial pull-off load to each crimped wire. Operation Speed: 50mm/min (Reference: MIL-STD-202)

 Third Angle Projection <small>DIMENSIONS ARE IN MILLIMETERS</small> <small>TOLERANCES:</small> .X ± 0.5 .XX ± 0.25 .XXX ± 0.10 Angle ± 1°		NAME	DATE	<h2 style="margin: 0;">LED Engin, Inc.</h2> TITLE: <h3 style="margin: 0;">LTP-T and LTC-Q Cable Assembly</h3> (Connector/Cable Specification)
	DRAWN CHECKED ENG APPR. MFG APPR. Q.A.	DAA	08/13/14	
MATERIAL: SEE NOTES	PROPRIETARY AND CONFIDENTIAL <small>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LED ENGIN, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LED ENGIN, INC. IS PROHIBITED.</small>			SIZE <h2 style="margin: 0;">B</h2>
FINISH: N/A	DWG. NO. <h2 style="margin: 0;">1800-000x-P3</h2>		REV <h2 style="margin: 0;">C1</h2>	
FILE NAME: 1800-000x-P3_Cable-Assy_RevC1			SCALE: 2:1	SHEET 4 OF 4