## **Tech Spec Sheet: QUANTAR External Control Module**

Product Construction FR4 four layer SMD PCB  Programming Requirements FFPROM Flash and/or RS-232 Serial Control  Power Requirements 5 VDC < 450 mA  RX LED Indicator D2 - Green SMD LED  TX LED Indicator D3 - Amber SMD LED  DTMF Data Valid LED Indicator D1 - Green SMD LED  Micro-Controller Atmel Mega 328 PB SMD  DTMF Decode Package Holter HT9170D - SMD  Reep Audio Gain Adjust Variable - R12 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust Variable - R12 Trimmer Resistor  Connector 1 50 pin SCSI through hole connector  Connector 2 R1-45  Contact Finish Connector 1 Phosphor- Bronze  Material Finish - PCD Green Sodder Mask - FR4 4 layer Printed Circuit Roard  Dimensions (L, W, H) 3,33" x 1.40" x 0.775"  Product Weight (co) 5 Warranty 1 year from date of manufacture parts, labor and manufacturing defects Indoor/Outdoor Indoor	Product Housing	Exposed PCB Daughter Card Form Factor
Programming Requirements  5 VDC < 450 mA  RX LED Indicator  D2 - Green SMD LED  TX LED Indicator  D3 - Amber SMD LED  TX LED Indicator  D1 - Green SMD LED  TX LED Indicator  D1 - Green SMD LED  TX LED Indicator  D1 - Green SMD LED  Atmel Mega 328 PB SMD  DTMF Decode Package  Holtek HT9370D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R17 Trimmer Resistor  Connector 1  S0-pin SCSI through hole connector  Connector 2  RJ 45  Contact Finish Connector 1  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33° x 1.40° x 0.775°  Product Weight (co)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Programming Requirements  S VDC < 450 mA   RX LED Indicator  D2 - Green SMD LED  TX LED Indicator  D3 - Amber SMD LED  TX LED Indicator  D1 - Green SMD LED  TX LED Indicator  D1 - Green SMD LED  TX LED Indicator  D1 - Green SMD LED  Atmel Mega 328 PB SMD  DTMF Decode Package  Holkek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R17 Trimmer Resistor  Connector 1  S0-pin SCSI through hole connector  Connector 2  RJ 45  Contact Finish Connector 1  Phosphor - Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  333" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Product Construction	EDA C CAAD DOD
Power Requirements   5 VDC < 450 mA	Product Construction	FR4 four layer SMD PCB
Power Requirements   5 VDC < 450 mA		
RX LED Indicator  D2 - Green SMD LED  TX LED Indicator  D3 - Amber SMD LED  DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 P8 SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  S6-pin SCSI through hole connector  Connector 2  RI-45  Contact Finish Connector 1  Phosphor- Bronze  Material Finish - PCB  Green SMD LED  Atmel Mega 328 P8 SMD  Atmel Mega 328 P8 SMD  Variable - R17 Trimmer Resistor  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green SMD LED  3.33" x 1.40" x 0.775"  Product Weight [oz]  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Programming Requirements	EEPROM Flash and/or RS-232 Serial Control
RX LED Indicator  D2 - Green SMD LED  TX LED Indicator  D3 - Amber SMD LED  DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 P8 SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  S6-pin SCSI through hole connector  Connector 2  RI-45  Contact Finish Connector 1  Phosphor- Bronze  Material Finish - PCB  Green SMD LED  Atmel Mega 328 P8 SMD  Atmel Mega 328 P8 SMD  Variable - R17 Trimmer Resistor  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green SMD LED  3.33" x 1.40" x 0.775"  Product Weight [oz]  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
RX LED Indicator  D2 - Green SMD LED  TX LED Indicator  D3 - Amber SMD LED  DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmet Mega 328 PB SMD  DTMF Decode Package  Holtek H19170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  S0-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Material Finish - PCB  Green SMD LED  Atmet Mega 328 PB SMD  Atmet Mega 328 PB SMD  Atmet Mega 328 PB SMD  Variable - R17 Trimmer Resistor  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  Phosphor- Bronze  General Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green SMD LED  Typic Micro Mic	Power Pequirements	E VDC < 450 mA
TX LED Indicator  D3 - Amber SMD LED  DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 PB SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  S0-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	rower requirements	3 VDC \ 430 IIIA
TX LED Indicator  D3 - Amber SMD LED  DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 PB SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  S0-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 PB SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RI-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	RX LED Indicator	D2 - Green SMD LED
DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 PB SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RI-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
DTMF Data Valid LED Indicator  D1 - Green SMD LED  Micro-Controller  Atmel Mega 328 PB SMD  DTMF Decode Package  Holtek HT9170D - SMD  Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RI-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	TX LED Indicator	D3 - Amher SMD LFD
Micro-Controller Atmel Mega 328 PB SMD  DTMF Decode Package Holtek HT91700 - SMD  Beep Audio Gain Adjust Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust Variable - R12 Trimmer Resistor  Connector 1 50-pin SCSI through hole connector  Connector 2 RJ-45  Contact Finish Connector 1 Phosphor- Bronze  Contact Finish Connector 2 Phosphor- Bronze  Material Finish - PCB Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H) 3.33" x 1.40" x 0.775"  Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects	TA LED HIGHERTO	DO AMBEL SIVID LED
Micro-Controller Atmel Mega 328 PB SMD  DTMF Decode Package Holtek HT91700 - SMD  Beep Audio Gain Adjust Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust Variable - R12 Trimmer Resistor  Connector 1 50-pin SCSI through hole connector  Connector 2 RJ-45  Contact Finish Connector 1 Phosphor- Bronze  Contact Finish Connector 2 Phosphor- Bronze  Material Finish - PCB Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H) 3.33" x 1.40" x 0.775"  Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects		
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Beep Audio Gain Adjust  Variable - R17 Trimmer Resistor  DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
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Beep Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Beep Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor-Bronze  Contact Finish Connector 2  Phosphor-Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	DTMF Decode Package	Holtek HT9170D - SMD
DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor-Bronze  Contact Finish Connector 2  Phosphor-Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
DTMF Data Valid Audio Gain Adjust  Variable - R12 Trimmer Resistor  Connector 1  50-pin SCSI through hole connector  Connector 2  RJ-45  Contact Finish Connector 1  Phosphor-Bronze  Contact Finish Connector 2  Phosphor-Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Beep Audio Gain Adjust	Variable - R17 Trimmer Resistor
Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Connector 2  RJ-45  Contact Finish Connector 1  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		W : II
Contact Finish Connector 1 Phosphor- Bronze  Contact Finish Connector 2 Phosphor- Bronze  Material Finish - PCB Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H) 3.33" x 1.40" x 0.775"  Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects	DTMF Data Valid Audio Gain Adjust	Variable - R12 Trimmer Resistor
Contact Finish Connector 1 Phosphor- Bronze  Contact Finish Connector 2 Phosphor- Bronze  Material Finish - PCB Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H) 3.33" x 1.40" x 0.775"  Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects		
Contact Finish Connector 2  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Connector 1	50-pin SCSI through hole connector
Contact Finish Connector 2  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Contact Finish Connector 2  Phosphor- Bronze  Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Connector 2	DI AE
Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Connector 2	NJ-43
Contact Finish Connector 2  Phosphor- Bronze  Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Contact Finish Connector 1	Phosphor- Bronze
Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Material Finish - PCB  Green Solder Mask - FR4 4 layer Printed Circuit Board  Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Contact Finish Connector 2	Phosphor- Bronze
Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects	Contact I man connector 2	Thosphor Bronze
Dimensions (L, W, H)  3.33" x 1.40" x 0.775"  Product Weight (oz)  5  Warranty  1 year from date of manufacture parts, labor and manufacturing defects		
Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects	Material Finish - PCB	Green Solder Mask - FR4 4 layer Printed Circuit Board
Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects		
Product Weight (oz) 5  Warranty 1 year from date of manufacture parts, labor and manufacturing defects	Dimensions (L, W, H)	3.33" x 1.40" x 0.775"
Warranty 1 year from date of manufacture parts, labor and manufacturing defects		
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	Product Weight (oz)	5
	Warranty	1 year from date of manufacture parts, labor and manufacturing defects
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