E2C/E2C-H

CSM F2C F2C-H DS F 7 1

Separate Amplifier Sensor with Sensitivity Adjustment

- · Compact design with smaller Sensor Head.
- Heat-resistance model available for application between -10 and 200°C.





Be sure to read *Safety Precautions* on page 15.

Ordering Information

Sensors [Refer to Dimensions on page 18.]

Standard Models

	Sensor					,	Amplifier U	nits	
Appeara	nce	Stable sensi	ng area *	Model	Combination	Model	Power supply/ Output	Timer func- tion	Self-diag- nostic output
	3.5 dia.	0.8 (1.8) mm		E2C-CR8A 3M		E2C-GE4A	DC/		
	3.8 dia.	0.8 (1.8) mm		E2C-CR8B 3M			(NPN)		
	M5	1 (2) mm		E2C-X1A 3M	 	E2C-GF4A	DC/ (PNP)		
Shielded	5.4 dia.	1 (2) mm		E2C-C1A 3M			DC/		
—	M8	1.5 (3) mm		E2C-X1R5A 3M		E2C-JC4AP 2M *	(NPN)	Yes	Yes
	M12	2 (5) mm		E2C-X2A 3M		E2C-JC4A 2M	DC/ (NPN)	Yes	
	M18	5 (10) mm		E2C-X5A 3M			(INPIN)		
	M30	10 (18)) mm	E2C-X10A 3M		E2C-AM4A	DC/(NPN)		
Unshielded	40 dia.		20 (50) mm	E2C-C20MA 3M		E2C-AK4A	AC		

 $^{^{\}star}1.$ Values in parentheses are for the maximum sensing distances at 23°C.

Heat-resistant Model

		Sensor	0 1	Amplifier Unit	
Appea	rance	Stable sensing area	Model	Combination	Model
Objective	M8	1.5 mm	E2C-X1R5AH 3M	E2C	-JC4CH 2M
Shielded	M12	2 mm	E2C-X2AH 3M	E2C	-JC4DH 2M
	M18	5 mm	E2C-X5AH 3M	₽ E2C	-JC4EH 2M

 $\label{thm:change} \textbf{Note: Characteristics will change if the cable length changes. Do not cut or extend the cable.}$

OMRON 1

^{*} Self-diagnostic output, timer, and DIN Track mounting.

Accessories (Order Separately)

Mounting Brackets A Mounting Bracket is not provided with the Sensor. Order a Mounting Bracket separately if required. [Refer to Dimension on page 21.]

Name	Model	Applicable Sensors	Remarks
Mounting Brackets	Y92E-F3R5	E2C-CR8A, for 3.5 dia.	
Mounting Brackets	Y92E-F5R4	E2C-C1A, for 5.4 dia.	

Connection Sockets A Socket is not provided with the Amplifier Unit. Order a Socket separately if required. [Refer to Dimension on page 21.]

Name	Model	Applicable Amplifier Unit	Remarks
Front Connection Sockets	PYF08A	E2C-GE4A E2C-GF4A	Hold-down Clips (Order Separately) PYC-A1 Sold as a set.
	P2CF-08	E2C-AM4A	
	P2CF-11	E2C-AK4A	
Back Connection Sockets	P3G-08	E2C-AM4A	
	P3GA-11	E2C-AK4A	

Adapters An Adapter is not provided with the Amplifier Unit. Order an Adapter separately if required. [Refer to Dimension on page 21.]

Name	Model	Applicable Amplifier Unit	Remarks	
	Y92F-30			
Embedded Adapters	Y92F-70	E2C-AM4A/-AK4A		
	Y92F-71			

For details on Mounting Brackets, Protective Covers, and Sputter Protective Covers, refer to Accessories on Y92.

Ratings and Specifications

Standard Models

Sensors

Item	Model	E2C-CR8A/ -CR8B	E2C-X1A/ -C1A	E2C-X1R5A	E2C-X2A	E2C-X5A	E2C-X10A	E2C-C20MA		
Sensing distance (at 23°C)		1.8 mm	2 mm	3 mm	5 mm	10 mm	18 mm	50 mm		
Stable sensing Ambient temperature		0 to 0.8 mm	0 to 1 mm	0 to 1.5 mm	0 to 2 mm	0 to 5 mm	0 to 10 mm	0 to 20 mm		
area	At 0 to 40°C	0 to 1.2 mm	0 to 1.5 mm	0 to 2 mm	0 to 2.5 mm	0 to 7 mm	0 to 15 mm	0 to 28 mm		
Different	tial travel	Refer to Rating	s and Specification	ons on page 4 for	Amplifier Unit sp	ecifications.				
Detectab	ole object	Ferrous metal (The sensing dista	ance decreases v	vith non-ferrous r	netal. Refer to E	ngineering Data	on page 7.)		
Standard ject	d sensing ob-	Iron, $5 \times 5 \times 1$ n	nm	Iron, 8 × 8 × 1 mm	Iron, 12 × 12 × 1 mm	Iron, 18 × 18 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, $50 \times 50 \times$ 1 mm		
Respons frequence		1 kHz		800 Hz		350 Hz	100 Hz	50 Hz		
Ambient tempera	ture range	Operating/Storage: –25 to 70°C (with no icing or condensation)								
Ambient humidity		Operating/Storage: 35% to 95% (with no condensation)								
Tempera influence		15% max. of se	nsing distance a	t 23°C in the tem	perature range of	-25 to 70°C				
Vibration	n resistance	Destruction: 10	to 55 Hz, 1.5-mr	n double amplitud	de for 2 hours eac	ch in X and Y dire	ections			
Shock re	esistance	Destruction: 50	0 m/s² 3 times ea	ach in X and Y dir	ections					
Degree o	of protection	IEC 60529 IP67	, in-house stand	ards: oil-resistant						
Connoct	ion method *2	Pre-wired Mode	e-wired Models							
Connect	ion memou z	High-frequency	coaxial cable (S	tandard cable len	gth: 3 m)					
Weight (packed	state)	Approx. 40 g	Approx. 45 g	Approx. 50 g	Approx. 60 g	Approx. 140 g	Approx. 270 g	Approx. 300 g		
	Case	Stainless steel	Brass							
	Sensing surface	ABS resin								
Materi- als	Cable	Polyethylene								
uið	Clamping nut		Brass, nickel-pl	ated (except E20	C-C1A)					
	Toothed washer		Brass, zinc-plat	ed (except E2C-0	C1A)					
Accesso	ries		I							
		<u> </u>	antral autaut on t							

^{*1.} The minimum value when using the solid-state control output on the Amplifier Unit.

Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.

*2. Refer to 6 for cable lengths when combining Amplifier Units and Sensors.

The characteristic impedance of the high-frequency coaxial cable is 50 Ω.

Amplifier Units

Item	Model	E2C-GE4A	E2C-GF4A	E2C-JC4A E2C-JC4AP	E2C-AM4A	E2C-AK4A	
Power su age (oper age range	ating volt-	12 to 24 VDC (10 to 30 VD	C), ripple (p-p): 10% max. *1	ipple (p-p): 10% max. *1 100 to 240 (90 to 264 50/60 Hz			
Current	tion	25 mA max.		45 mA max.	50 mA max.	55 mA max.	
Sensing d adjustme	listance nt range *2	20% min. of rated sensing ometer	g distance with 4-turn potenti- 20% to 100% of rated sensing distance with 4-turn potentiometer			entiometer	
Differentia adjustme		Differential travel fixed (10°	% max. of sensing distance)		1% to 5% of rated sensing	distance	
Re- sponse	Solid- state	(Refer to the response freq	uency of the Proximity Sens	or.)	,		
time	Relay		-			20 ms max.	
Control outputs	Solid- state	NPN Load resistance: 4.7 kΩ, 100 mA max. (40 VDC max.) (Residual voltage: 1.5 V max.)	PNP Load resistance: $4.7 \text{ k}\Omega$, 100 mA max. (40 VDC max.) (Residual voltage: 1.5 V max.)	NPN Open-collector output 100 mA max. (40 VDC max.) (Residual voltage: 0.7 V max.) (E2C-JC4AP: 1 V max.)	NPN/PNP output Open-collector output 200 mA max. (40 VDC max.) (Residual voltage: 1.5 V max.)	Transistor/photocoupler 50 mA max. (40 VDC max.) (Residual voltage: 2 V max.)	
	Relay		-			Relay output, SPDT 2 A at 250 VAC, cosφ = 1 (resistive load) *3	
Indicators	5	Detection indicator (red) (OPERATION) Detection indicator (red) (OPERATION) Stability indicator (green) (STABILITY) Detection indicator (red) (OPERATION Stability indicator (green) (STABILITY)					
Operation	mode	Changed with NO/NC swite	ch.	1	1		
Self-diagr output	nostic	-		(E2C-JC4AP only) Output transistor turns ON when Sensor open circuit or unstable sensing is de- tected; solid-state NPN open-collector 50 mA max. (40 VDC max.) (Residual voltage: 1 V max.)	-		
Timer fun	ction	-		OFF-delay: 40 ±10 ms	-		
Cable leng compensa between S Amplifier	ation Sensor and			(E2C-JC4AP only) 3 m/5 m, terminals Short-plate switching Shorted: 1 to 3 m Open: 3 to 5 m	Mode switched with 4-posit	tion switch.	
Ambient temperatu	ıre range	Operating/storage: -10 to 5	55°C (with no icing or conder	nsation)			
Ambient humidity	range	Operating/Storage: 35% to	85% (E2C-JC4AP: 35% to 9	95%) (with no condensation)			
Temperatinfluence	ure	10% max. of sensing distar	nce at 23°C in the temperatu	re range of –10 to 55°C			
Voltage in	fluence		ensing distance at rated volt ensing distance at rated volt				
Insulation resistance		50 MΩ min. (at 500 VDC) b	petween current-carrying par	ts and case			
Dielectric	strength		1/60 Hz for 1 min between cu 1/60 Hz for 1 min between cu				
Vibration	resistance	Destruction: 10 to 25 Hz, 2 hours each in X, Y, and Z of	mm double amplitude for 2 directions	Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	Destruction: 10 to 25 Hz, 2 hours each in X, Y, and Z o	-mm double amplitude for 2 directions	

^{*1.} A full-wave rectification power supply of 24 VDC ±10% (average value) can be used (except for the E2C-GE4□).
*2. The sensing distance range required to maintain performed is given for using the Amplifier Unit in combination with the Sensor.
*3. Internal relay: G2R-14 DC 12V

Model	E2C-GE4A	E2C-GF4A	E2C-JC4A E2C-JC4AP	E2C-AM4A	E2C-AK4A
Item			EZC-JC4AF		
Shock resistance	Destruction: 100 m/s ² 3 tim	es each in X, Y, and Z direct	tions		
Life expectancy	operations min.				Electrical: 100,000
Connection method	Terminal block		Pre-wired Models (Standard cable length: 2 m)	Terminal block	
Weight (packed state) *4	Approx. 20 g		E2C-JC4A: Approx. 50 g E2C-JC4AP: Approx 80 g	Approx. 140 g	Approx. 250 g
Accessories	Instruction manual		Caution labels, Mounting Bracket (E2C-JC4A: M3 × 15 Phillips mounting screw), instruction manual	Instruction manual	

^{*4.} The weight of the Connection Socket is not included.

Heat-resistant Models

Sensors

Selisc							
Item	Model	E2C-X1R5AH	E2C-X1R5AH E2C-X2AH E2C-X5AH				
Detect	able object	Ferrous metal (Th non-ferrous metal 7.)	e sensing distance , refer to <i>Engineeri</i>	decreases with ng Data on page			
Standa object	ard sensing	Iron, 8 × 8 × 1 mm	Iron, 12 × 12 × 1 mm	Iron, 18 × 18 × 1 mm			
Stable area	sensing	0 to 1.5 mm	0 to 2 mm	0 to 5 mm			
Differe	ntial travel	0.04 mm max.		0.1 mm max.			
Respo		300 Hz					
Ambie ture ra	nt tempera- nge	Operating/Storage densation)	e: -10 to 200°C (wi	th no icing or con-			
Ambie humidi	nt ity range	Operating/Storage: 35% to 95% (with no condensation)					
Tempe influen	rature ice	±0.2%/°C					
Vibrati resista		Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions					
Shock	resistance	Destruction: 500 m/s 2 3 times each in X, Y, and Z directions					
Degree		IEC 60529 IP60 *2					
Conne od	ction meth-		(Cable length: 3 mgh-frequency coaxia				
Weight (packe	t d state)	Approx. 50 g	Approx. 60 g	Approx. 140 g			
	Case	Brass					
	Sensing surface	PEEK (polyether e	ether ketone)				
Mate-	Cable	Fluorine resin					
rials	Clamping nut	Brass, nickel-plated					
	Toothed washer	Iron, zinc-plated					

Note: Ratings and characteristic are given for 50% of the stable sensing area.

*1. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing

Amplifier Units

Ampii	tier Units					
Item	Model	E2C-JC4CH	E2C-JC4DH	E2C-JC4EH		
voltage	ting voltage	12 to 24 VDC (10	to 30 VDC), ripple ((p-p): 10% max.		
Currention	it consump-	45 mA max.				
	ng distance ment range	20% to 100% of ra 4-turn potentiome	ated sensing distand ter	ce		
Con- trol	Load current	NPN open collecto	or, 100 mA max. (40) VDC max.)		
out- puts	Residual voltage	0.8 V max.				
Indicat	tors	Detection indicato	r (red)			
Operat	ion mode	Changed with NO	/NC switch.			
Cable compe	length ensation	Switched between	3 and 5 m.			
Ambie ture ra	nt tempera- nge	Operating/storage: -10 to 55°C (with no icing or condensation)				
Ambie humidi	nt ity range	Operating/storage: 35% to 85% (with no condensation)				
Tempe		±0.08%/°C				
Voltage	e influence	$\pm 2\%$ max. of sensing distance at rated voltage in the rated voltage $\pm 20\%$ range				
Insulat resista		$50~M\Omega$ min. (at 500 VDC) between current-carrying parts and case				
Dielect		1,000 VAC, 50/60 ing parts and case	Hz for 1 min betwe	en current-carry-		
Vibrati resista		Destruction: 10 to 2 hours each in X	55 Hz, 1.5-mm dou Y, and Z directions	ble amplitude for		
Shock	resistance	Destruction: 100 n tions	n/s ² 3 times each in	X, Y, and Z direc-		
Degree		IEC 60529 IP20				
Conne		Pre-wired Models (Cable length: 2 m)				
Weight state)	t (packed	Approx. 80 g				
Access	sories	Caution labels, Mo	ounting Bracket, ins	truction manual		

^{*1.} A full-wave rectification power supply of 24 VDC $\pm 10\%$ (average value) can

^{*2.} Do not operate the Sensor in areas exposed to water vapor because the enclosure is not waterproof.

<sup>be used.
*2. The sensing distance range required to maintain performed is given for using the Amplifier Unit in combination with the Sensor.</sup>

Cable Lengths for Sensor-Amplifier Unit Combinations

Standard Models

Sensor Amplifier Units	E2C-CR8A	E2C-CR8B	E2C-X1A	E2C-C1A	E2C- X1R5A	E2C-X2A	E2C-X5A	E2C-X10A	E2C- C20MA
E2C-GE4A		D	estricted to 3	m					
E2C-GF4A		П	estricted to 5	111.					
E2C-JC4AP		1 to 3 m: Short cable length terminals * 3 to 5 m: Open cable length terminals *							
E2C-JC4A			Restricte	ed to 3 m.					
E2C-AM4A		0 to 5 m Set cable length switch to desired position. *						10 m	
E2C-AK4A	S					Set cable	e length switc	h to desired p	osition. *

Note: The standard cable length is 3 m. Models with 5-m or 10-m are manufactured upon order.

Heat-resistant Models

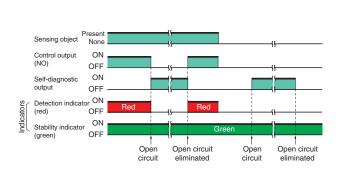
Sensor	E2C-X1R5AH	E2C-X2AH	E2C-X5AH				
Amplifier Units	L20-XIII3AII	LZO-XZAII	EZC-ASAN				
E2C-JC4CH							
E2C-JC4DH	Set 3 m/5 m cable length switch to desired position						
E2C-JC4EH							

Note: The standard cable length is 3 m. Models with 5-m are manufactured upon order.

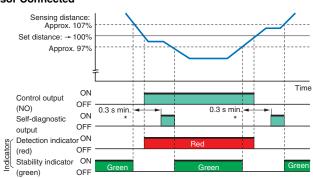
Self-diagnostic Function

The self-diagnostic output transistor will turn ON in the following cases. (The output will turn ON for any of these conditions individually.) (1) Sensor open circuit: Transistor will turn ON the instance there is an open circuit for the Sensor (including the cable).

Sensor Open Circuit



Sensor Connected



Note: When the E2C-X2A Sensor is used, 93% is 96% and 107% is 104%.

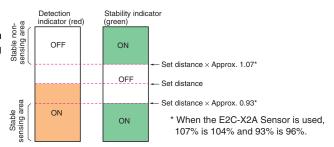
* The self-diagnostic output may turn ON if the sensing objects moves a low speed. In actual application, include an ON-delay timer circuit or other suitable measure.

(2) Detection: The output will turn ON if a sensing object is within 93% to 100% of the sensing distance continuously for 0.3 s or longer (e.g., for sensing object position offset).

(3) No detection: The output will turn ON if a sensing object is within 100% to 107% of the sensing distance continuously for 0.3 s or longer (e.g., when background is influencing detection).

Indicators

- The detection indicator lights when a sensing object approaches the sensing distance to indicate that a sensing object has been detected.
- The stability indicator lights when the sensing object approaches within 93% of the sensing distance or moves away from 107% of the sensing distance to indicate a stable sensing or non-sensing condition.

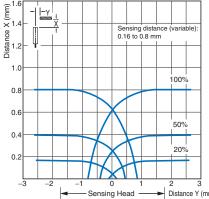


^{*} Refer to page 14 for the operation of cable length switching.

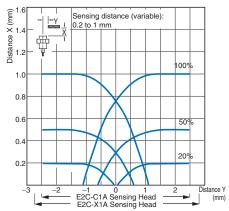
Engineering Data (Typical)

Sensing Area

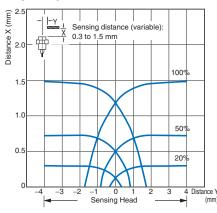




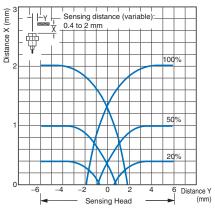
E2C-X1A/-C1A



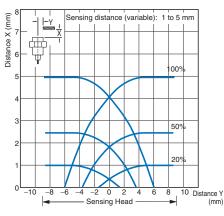
E2C-X1R5A



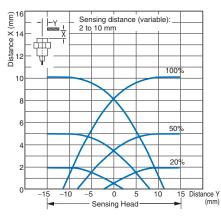
E2C-X2A



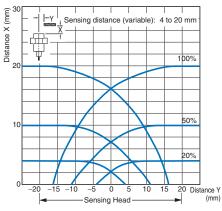
E2C-X5A



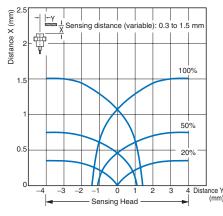
E2C-X10A



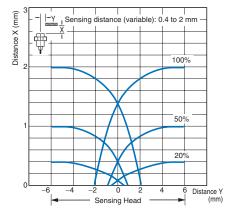
E2C-C20MA



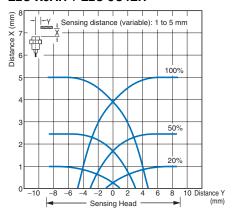
E2C-X1R5AH + E2C-JC4CH



E2C-X2AH + E2C-JC4DH

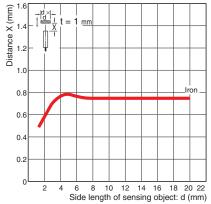


E2C-X5AH + E2C-JC4EH

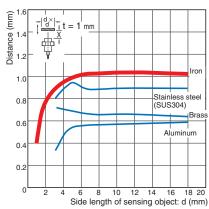


Influence of Sensing Object Size and Material

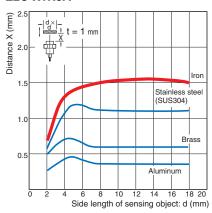
E2C-CR8



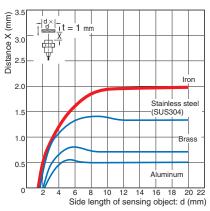
E2C-X1A/-C1A



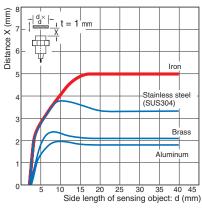
E2C-X1R5A



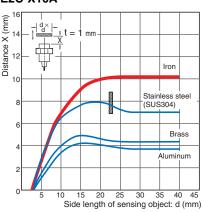
E2C-X2A



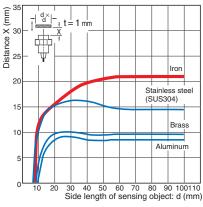
E2C-X5A



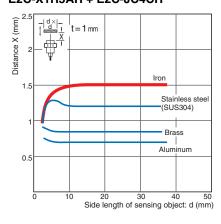
E2C-X10A



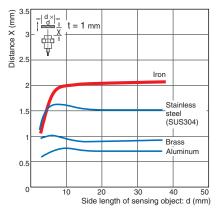
E2C-C20MA



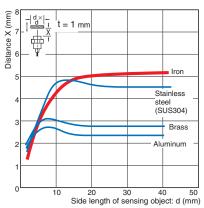
E2C-X1R5AH + E2C-JC4CH



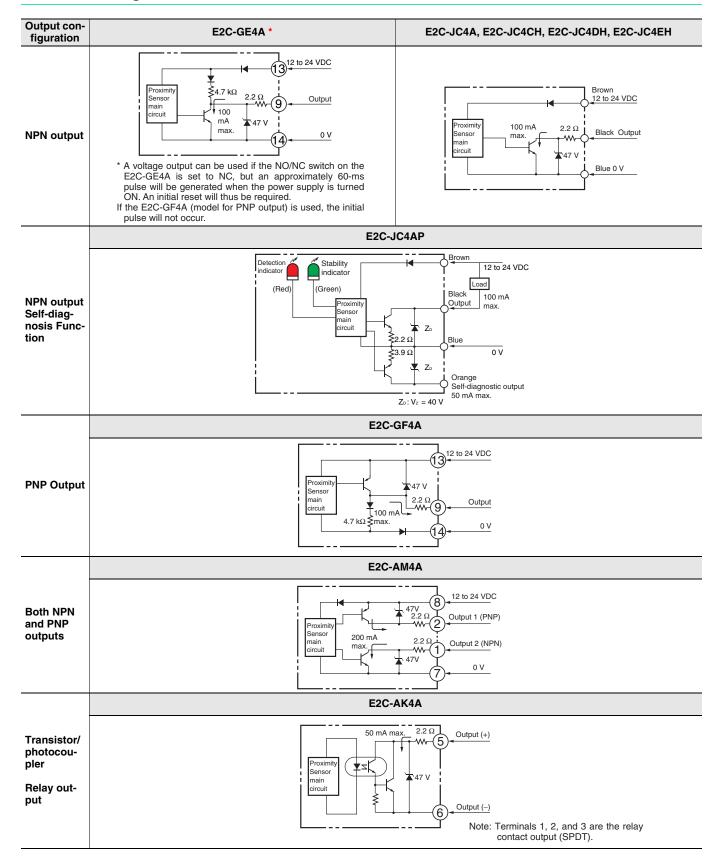
E2C-X2AH + E2C-JC4DH



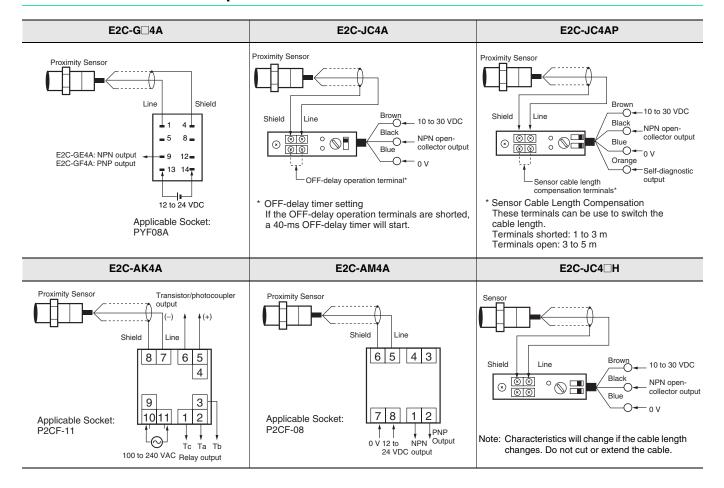
E2C-X5AH + E2C-JC4EH



I/O Circuit Diagrams



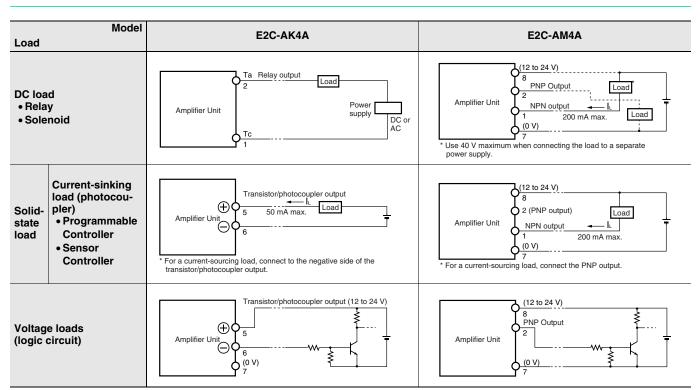
Connections between Amplifier Unit and Sensor



Load Connections

Model Load	E2C-JC4A, E2C-JC4⊟H
DC load • Relay • Solenoid Current-sinking load • Programmable Controller • Sensor Controller	Brown Black Blue
Voltage load (logic circuit)	Brown Black 4.7 k +V To next stage 0 V Interface circuits Logic circuit

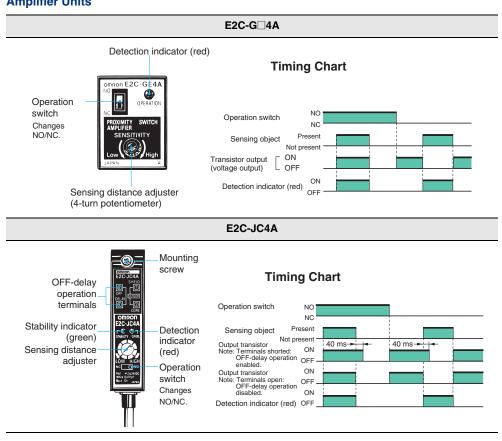
Model Load	E2C-GE4A
DC load • Relay • Solenoid	9 Load
Solid-state load • Programma- ble Control- ler • Sensor Controller	Amplifier Unit
Voltage load (logic circuit)	Amplifier Unit Amplifier Unit 12 to 24 V +V 14.7 K ¼W V: 3V To next stage To next stage VCED: 30 V min. 12 to 24 V +V VV: 3V To next stage To next stage V (0 V)
Remarks	When connecting to a CMOS IC or TLL, provide an interface circuit as shown above and connect to the solid-state circuit in the next stage.

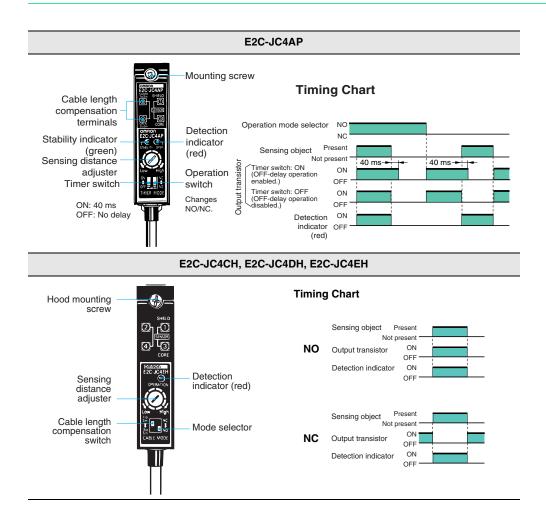


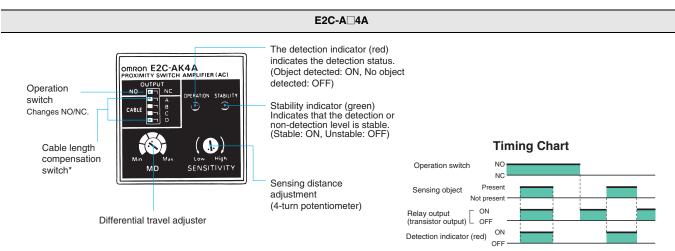
The E2C-AK4A supports relay and transistor/photocoupler outputs, and the E2C-AM4A supports both NPN and PNP open-collector output. They can be connected to a wide variety of load types and power polarities.

Nomenclature and Timing Charts

Amplifier Units







^{*} Cable Length Compensation Switching
Set this switch to the proper setting depending on whether the standard cable length is being used or the cable has been cut shorter.

Amplifier Unit Switch Settings

Applicable Sensors	Cable length	0 to 1 m	1 to 2 m	2 to 3 m	3 to 4 m	4 to 5 m	5 to 6 m	6 to 7 m	7 to 8 m	8 to 9 m	9 to 10 m
E2C-CR8A E2C-CR8B E2C-X1A E2C-C1A E2C-X1R5A		A B C D	A B C D	A B C D	A B C D	A B C D					
E2C-X2A E2C-X5A E2C-X10A E2C-C20MA		A B C D	A B C D	A B C D	A B C D						

Note: 1. Mutual Interference Prevention: When mounting Sensors with the same diameter and cable length in parallel, set the DIP switch to modes that differ by 1 m in cable length. Specifications, however, may not be sufficiently met, so always check operation before actual application. This method cannot be used for the E2C-C20MA.

 $^{2.} When using the \verb|E2C-CR5B| + \verb|E2C-AM4A| (or AK4A), set all the pins on the Amplifier Unit DIP switch to the left.$

Safety Precautions

Refer to Warranty and Limitations of Liability.



This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.



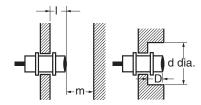
Precautions for Correct Use

Do not use the Encoder under ambient conditions that exceed the ratings.

Design

Influence of Surrounding Metal

When mounting the Sensor within a metal panel, ensure that the clearances given in the following table are maintained. Failure to maintain these distances may cause deterioration in the performance of the Sensor.



Influence of Surrounding Metal

(Unit: mm)

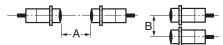
Model Distance	I	d	D	m
E2C-CR8		(3.5)		2.4
E2C-X1A		(5)		3
E2C-C1A		(5.4)		3
E2C-X1R5A(H)	0	(8)	0	4.5
E2C-X2A(H)		(12)		6
E2C-X5A(H)		(18)		15
E2C-X10A		(30)		30
E2C-C20MA	25	120	40	60

Note: Values in parentheses for diameter d are the outer diameters of Shielded Models

Mutual Interference

When installing Sensors face-to-face or side-by-side, ensure that the minimum distances given in the following table are maintained. Mutual interference can be prevented by using the cable length compensation switch, but doing so will also change coil characteristics. Specifications such as temperature specifications and sensing distance, may not be sufficiently met, so always check operation before actual application.

This method cannot be used for the E2C-G□4A, E2C-JC4A, E2C-C20MA.



Mutual Interference (Unit: mm)

Model	Distance	Α	В	
E2C-CR8				
E2C-X1A		20	15	
E2C-C1A		20	15	
E2C-X1R5A	(H)			
E2C-X2A(H)		30	20	
E2C-X5A(H)		50	35	
E2C-X10A		100	70	
E2C-C20MA		300	200	

Note: The above values are for a differential travel setting of 5%.

Mounting

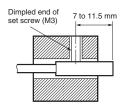
 Do not use excessive force when tightening the nuts on the E2C-X and E2C-C20MA. A washer must be used with the nut.



Model	Torque
E2C-X1A	0.98 N·m
E2C-X1R5A(H)	2.0 N⋅m
E2C-X2A(H)	5.9 N⋅m
E2C-X5A(H)	15 N⋅m
E2C-X10A	39 N⋅m
E2C-C20MA	15 N⋅m

Note: The above leeways in tighten torque assume that a toothed washer is being used.

Mounting Unthreaded Cylindrical Models
 When using a set screw, tighten it to a torque of 0.2 N·m max.



Y92E-F3R5 Mounting Bracket (for 3.5 dia.) (Order Separately)



The Y92E-F5R4 (for 5.4 dia.) is also sold separately.

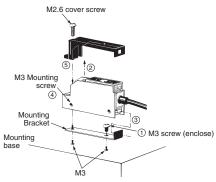
Mounting

Mounting the Amplifier Unit

E2C-JC4A

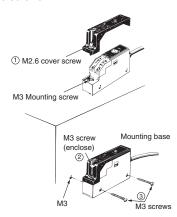
Lengthwise Mounting

- (1) Secure the Mounting Bracket with the enclosed M3 screws.
- (2)Loosen the M2.6 cover screw and remove the cover.
- (3)Slide the protrusion on the Amplifier Unit into the hole on the Mounting Bracket.
- (4) Using the M3 mounting screw inside the Amplifier Unit, secure the Amplifier Unit to the mounting base.
- (5) Secure the cover to the case.



Mounting to the Side

- (1)Loosen the M2.6 cover screw and remove the cover. Loosen the M2.6 cover screw and remove the cover, and remove the M3 screw.
- (2) Attached the enclosed M3 screw to the cover and secure the cover to the case.
- (3)Secure the Amplifier Unit with M3 screws from the side. You must provide these screws.



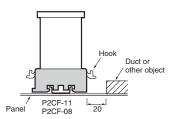
After completing adjustments, attach the enclosed caution label over the adjustment holes to prevent adjustment mistakes.



E2C-A□4A

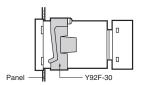
Using P2CF-11, P2CF-08

When aligning the Amplifier Unit vertically with the Socket, consider the space required for the hooks and allow a leeway of about 20 mm above and below the Amplifier Unit.

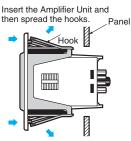


Mounting Embedded in a Panel

(1)When using the Y92F-30 Embedded Mounting Adapter, insert the Amplifier Unit into a square hold in the panel, attach the Adapter from the back and press in to reduce the gap with the panel. Then secure the Adapter with the screws.



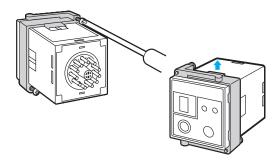
(2)When using the Y92F-70 or Y92F-71 Embedded Mounting Adapter, just press the Amplifier into a square hole in the panel. If the panel coating is too thick and the hooks do not lock in place, spread the hooks from the back by pushing in the directions of the arrows.



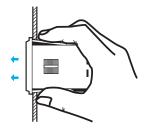
Insert the Sensor and then spread the hooks.

Removing the Amplifier Unit

 When the Amplifier Unit is mounted using the Y92F-30, loosen the screws on the adapter, spread the hooks at the top and bottom, and remove the Adapter.



Using Y92F-70, Y92F-71
 Press in on the hooks with your thumb and forefinger and press forward on the Amplifier Unit.



Wiring

Self-diagnostic Output

When not using the self-diagnostic output, connect the orange wire to 0 V or cut it and wrap it with insulation tape so that it does not come into contact with other terminals.

Miscellaneous

The sensor does not have a water-resistant structure. Do not use it where it would be subjected to water or water vapor.

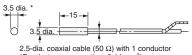
Dimensions

Main Units

Sensor

E2C-CR8A/-CR8B

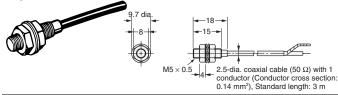




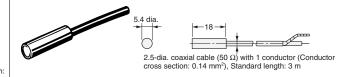
 T 2.5-dia. coaxial cable $^{(5)}$ $\Omega)$ with 1 conductor (Conductor cross section: 0.14 mm²), Standard length: 3 m

*E2C-CR8B: Diameter is 3.8.

E2C-X1A

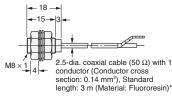


E2C-C1A

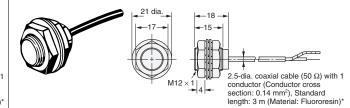


E2C-X1R5A E2C-X1R5AH*

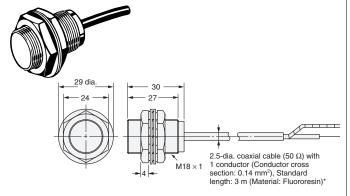




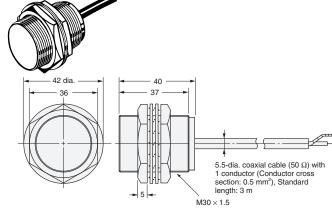
E2C-X2A E2C-X2AH*



E2C-X5A E2C-X5AH*

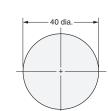


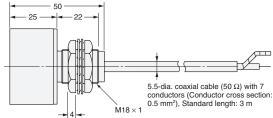
E2C-X10A



E2C-C20MA







Mounting Hole Dimensions



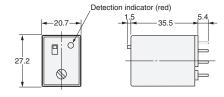
Model	F (mm)	Model	F (mm)	Model	F (mm)	
E2C-CR8A	3.7-dia. +0.3	E2C-X1A	5.4-dia. +0.5	E2C-X5A	18.5-dia. +0.5	
E2C-CR8B	4.0-dia. +0.3	E2C-X1R5A	8.5-dia. +0.5	E2C-X10A	30.5-dia. +0.5	
E2C-C1A	5.7-dia. +0.3	E2C-X2A	12.5-dia. +0.5	E2C-C20MA	18.5-dia. +0.5	

18

Amplifier Units

E2C-GE4A E2C-GF4A





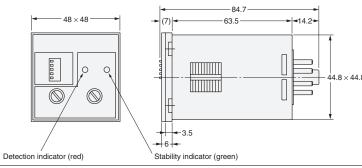


Applicable Sockets (Sold Separately) • PYF08A

Hold-down Clip • PYC-A1

E2C-AK4A (11-pin) E2C-AM4A (8-pin)





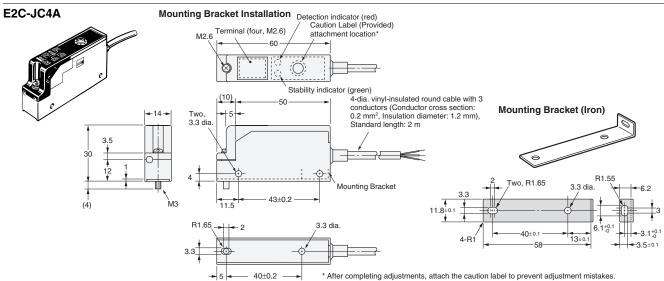
Applicable Sockets (Sold Separately)

For E2C-AK4A (11-pin)

- P2CF-11
- P3GA-11

For E2C-AM4A (8-pin)

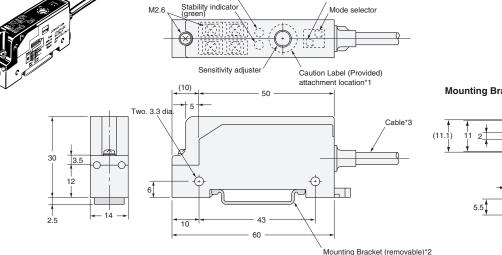
- P2CF-08
- P3G-08

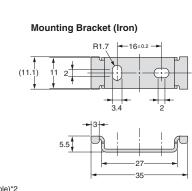


E2C-JC4AP

Mounting Bracket Installation

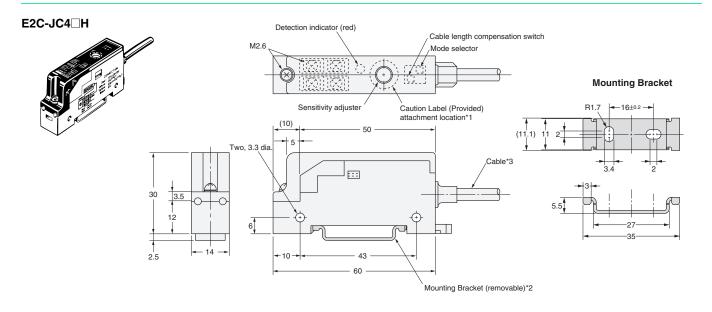
Detection indicator (red)





- *1. After completing adjustments, attach the caution label to prevent adjustment mistakes.
 *2. Not required when mounting to DIN Track.
 *3: 4.5-dia. vinyl-insulated round cable with 4 conductors (Conductor cross section: 0.2 mm², Insulator diameter: 1.2 mm), Standard length: 2 m

Timer switch



- *1. After completing adjustments, attach the caution label to prevent adjustment mistakes
 *2. Not required when mounting to DIN Track.
 *3. 4-dia. vinyl-insulated round cable with 3 conductors (Conductor cross section: 0.2 mm², insulator diameter: 1.2 mm), Standard length: 2 m
 The cable can be extended up to 200 m (separate metal conduit).

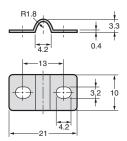
Accessories (Order Separately)

Mounting Bracket

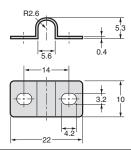
Mounting Bracket (for Unthreaded Cylindrical Models) Y92E-F3R5 (for 3.5 dia.) Y92E--F5R4 (for 5.4 dia.)



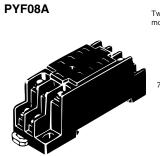
Y92E-F3R5

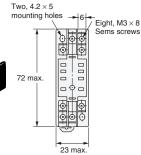


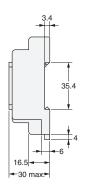
Y92E-F5R4



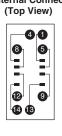
Front Connection Sockets



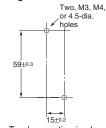




Terminal Arrangement and Internal Connections

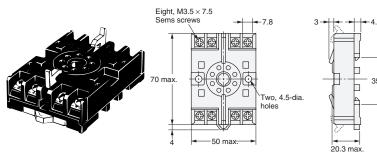


Mounting Hole Dimensions

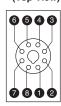


Note: Track mounting is also possible.

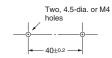
P2CF-08





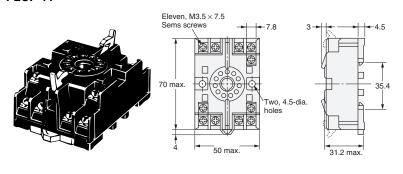


Mounting Hole Dimensions

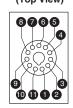


Note: Track mounting is also possible.

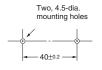
P2CF-11



Terminal Arrangement and Internal Connections (Top View)



Mounting Hole Dimensions

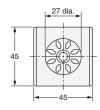


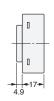
Note: Track mounting is also possible.

Back Connection Sockets

P3G-08





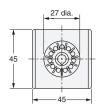


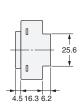
Terminal Arrangement and Internal Connections (Bottom View)



P3GA-11







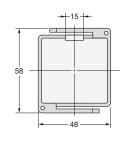
Terminal Arrangement and Internal Connections

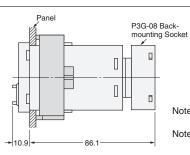


Embedded Mounting Adapter (for E2C-AK4A/E2C-AM4A Amplifier Unit)

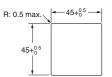
Y92F-30







Mounting Hole Dimensions

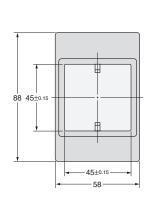


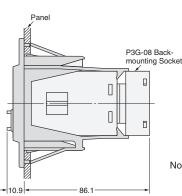
Note 1. Suitable mounting panel thickness: 1 to 5 mm

Note 2. Check the direction of the Adapter, which depends on whether Amplifier Units are arranged vertically or horizontally.

Y92F-70







Mounting Hole Dimensions

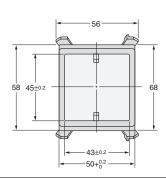
Adapter mounting holes: Two, 4.5-dia.

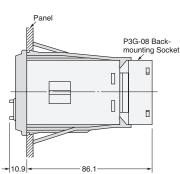
R: 0.5 max. 52 to 53 76±0.2

Note: Suitable mounting panel thickness: 1 to 3.2 mm

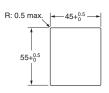
Y92F-71







Mounting Hole Dimensions



Note: Suitable mounting panel thickness: 1 to 3.2 mm

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

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The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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Disclaimers

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Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

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Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

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Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

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The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

2011.4

In the interest of product improvement, specifications are subject to change without notice.



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E2C-GE4A E2C-GE4B E2C-GF4A E2C-GF4B E2C-JC4A



OOO «ЛайфЭлектроникс" "LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 P/C 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 3010181090000000703 БИК 044030703

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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

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- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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