# tend CAM SWITCH(48 mm And 64mm SERIES

### FEATURES

- Diversified operating ways, handles and plates.
- Unique modular design of contact blocks keeps internal parts from falling apart when contact blocks are disassemble or replaced.
- Can assemble or disassemble contact blocks to suit for various models yet without risking excessive stock.
- Contact blocks can be added click-on easily no need to unscrew.
- Contacting screws are fastened from the back rather than normally from the side. It makes wiring easier.
- A special design to keep connecting terminals and screws in the contact blocks can prevent users from electric shocking.
- All the connecting pieces of terminals are covered to avoid electric shocking.
- Capacities are differentiated by colors of contact blocks blue for 10A; gray for 16A and black for 25A.



### SPECIFICATIONS

Capacity	AC-	3(kw)	AC-2	3A(kw)	AC-21A		Rated	AC-	3(HP)	Motorload
Voltage	3 ph.	1 ph.	3 ph.	1 ph.	Iu=Ith		voltage	3 ph.	1 ph.	WOLDI IDAU
220V~240V	1.5	0.55	1.8	0.75			120V	0.75	0.33	
380V~440V	2.2	0.75	3	<sup>′</sup> 1.1	10A					10A
660V~690V	2.2	0.75	3	1.1			240V	1	0.75	
220V~240V	3	1.5	4	2.2			120V	15	0.5	
380V~440V	5.5	2.2	7	3	16A		1201		0.0	16A
660V~690V	5.5	2.2	7	3			240V	3	1.5	
220V~240V	4	3	5.5	3			120V	3	1.5	
380V~440V	7.5	3.7	11	5.5	25A		240V	7.5	3	25A
660V~690V	7.5	3.7	11	5.5			480V	10	5	
IEC 60947-3.EN 60947	7-3		VDE 0	660 part 10	07	ŀ	HD A300	UL	77B7	

IEC 60947-3, EN 60947-3

VDE 0660 part 107

A300



For panel series No.48 and No.64, the handles, engraving plates, upper bases and contacts can be disassembled by DIY.

Assembly and disassembly of upper base and contact or those of two contacts.



- Assembly between upper base and contact block: point and push the raised part of the upper base into the hole of contact block.
- Assembly between contact blocks: point and push the raised part of the contact block into the hole of another contact blocks.
- Disassembly: lift the raised part of contact with"-" shape screw driver.
- Assembly of connecting piece: insert the "Y" shape terminal of the connecting piece into the rectangular holes flanking the contact and press the raised point of connecting piece down into the round hole of contact block





# **tend** CAM SWITCH(48\*48 AND 64\*64 SERIES) TCS

Before placing an order for finished products, please refer to the explanation of model numbers shown in this page.

#### MODEL DESIGNATION

TCS 4 S	R 2	242 - 2	2209	R
12	3 (	4 5		7
Designation	Signal	Des	cription	

4.01	4	48*48		
1.Size	6	64*64		
	S	Short handle		
2.Handle	L	Long handle		
	0	Octagonal handle		
	None	Silver panel black hands		
3.Face and hands color	R	Yellow panel red hands		

4.Position, turn angle plate number	240~842	See page TA23
	1	10A
5.Capacity	2	16A
	3	25A
6.Wiring diagram number		See page TA22~TA33
7.Operation	None R	Hold Spring return (45°, 2 position, 3 position only)

#### DIMENSIONS



# **tend** CAM SWITCH(48\*48 AND 64\*64 SERIES) TCS

Before placing an order for finished products, please refer to the explanation of model numbers shown in this page.

#### MODEL DESIGNATION

 TCS 5
 S
 R
 A
 2
 2209
 R

 1
 2
 3
 4
 5
 6
 7

 Designation
 Signal
 Description

 5
 48\*60

1.Size	7	64*80
	S	Short handle
2.Handle	L	Long handle
	0	Octagonal handle
	None	Silver panel black hands
3.Face and hands color	R	Yellow panel red hands

4.Position, turn angle plate number	A~Z	See page TA20
	1	10A
5.Capacity	2	16A
	3	25A
6.Wiring diagram number		See page TA22~TA33
7.Operation	None R	Hold Spring return (45°, 2 position, 3 position only)

#### 



#### TEND TECHNOLOGY CO., LTD.

As to the order of components for DIY assembl, please refer to the following assembly illustration diagram.



• 48\*60mm and 64\*80mm series sub-assembly



### HANDLE DESIGNATION

TCS 4 S R	Designation	Signal	Description		S	Short handle
		4	48*48mm	2.Handle	L	Long handle
(1)(2)(3)	1.Size	6	64*64mm		0	Octagonal handle
_				3.Face and hands color	В	Silver panel black hands
DIMENSIONS					ĸ	renow panel red hands
TCS4S	12		TCS6S		15	
	4 Ø28	20.9		23	Ø36	22.4
TCS4L	12		TCS6L	_	15	-
	90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	22.3		84	Ø36	5 24.5
TCS40			TCS60			
		23.1			© 40	

#### ■ CONTACT BLOCKS DESIGNATION TCS ①-CD ①

$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$						
Designation	Signal	Description				
	1	10A				
1.Capacity	2	16A				
	3	25A				
2.No.of Contacts	S	Single-point contact				
Fitted	С	Double-point contact				
3.Contact blocks number	01~A1	See page TA22~TA23				

### 

TCS□-C01~CA1 TCS□-S01~SA1







### UPPER BASE DESIGNATION

TCS 6 2 4 R	Designation	Signal	Description	2.Position	2~8	2~8 Position
		4	48*48	2 Turn angla	4	45°
(1) (2) (3) (4)	1.Size	5	48*60	5. rum angle	9	90°
		6	64*64	4.Operation	None	Hold
		7	64*80	3 position only)	R	Spring return(except 90°)

#### UPPER BASE DIMENSION







- Put cam to 2TCSM01, set the arrow of contact blocks pointing "up" rotate cam and make cam's arrow pointing to the required direction(see wiring diagram)
- Customer may order double-point contact coded as TCS\_-C01 ~CA1, or singe--point contact coded as TCS\_-S01-SA1.
- Way of assembly: as illustrated above When the turning angle of upper base is 45, the arrow of the first layer of contact coded CO2 points" up" while that of the second layer coded CO8 points to the left.

When the turning angle of upper base is 90 , the arrow of the first layer of contact coded CO2 points"up"while that of the second layer coded CO1 points to the right.

#### 1201(02A) 45° 3 ( 45° (C02 C09 90°(C02 90°(C02 90° 1205(1A\*2) 45° 0.08 (CU8 90°C0 90°C0 1301(1A01A) 45° S20 45° C20 90° C43 90° S43 C07 45° C14 45° 45° C04 45° 45° C20 IC15 45° C17 90° C01 0.38 ۵n

### WIRING DIAGRAM

#### One stack

TEND TECHNOLOGY CO., LTD.











3

1

1

45

2 J 90'

2

3 🤇

1Ċ

1

45° <u>C02</u> 90° <u>C02</u>

2

2

45°

2

2

90°(c02

3

1 -

1

2

45

2

90°(C02

3Ç

1Ċ

1

















#### Five stacks





#### Order from for special contacts.

• If customer has special contact requirement, please copy the following blank contact diagram and mark the required contacts.







### FEATURES

- The upper and lower bases of 22, 25 and 30 series can be push-buttor assembled or disassembled as per our patent Upper base fixed base and contact are three detachable parts
- Unique modular design of contact blocks keeps internal parts from falling apart when contact blocks are disassembled or replaced.
- Can assemble or disassemble contact blocks to suit for various models yet without risking excessive stock.
- Contact blocks can be added click-on easily, no need to unscrew.
- Connecting screws are fastened from the back rather than normally from the side. It makes wiring easier.
- A special design to keep connection terminals and screws in the contact blocks can prevent users from electric shocking.
- All the connecting pieces of terminals are covered to avoid from electric shocking.
- Capacities are different by colors of contact blocks: blue for 10A;gray for 16A and black for 25A.

#### SPECIFICATIONS



### CONFIGURATION



#### MOUNTING METHOD





Install the operating head and rubber ring through the front panel and tighten fixing ring with fixing tool.



TCS



#### DIMENSIONS(mm)

Designation	Ø22	Ø25	Ø30			
А	60 min					
В	11.2	12.7	15.2			
С	22.4	25.4	30.4			

TCS

Ø22mm/Ø25mm series are the same dimensions with common fixing ring. • The assembly method for Ø22/Ø25 series • The assembly method for Ø30 series



#### Assembly instruction

 Assembly and disassembly of fixing block with upper base.



Assembly: Align the hole on top of fixing block with groove on the upper base and push, them together. Disassembly: Place downward by hand or use flat screw-driver to push down the orange button thru the hole on top of the fixing block.



• Assembly and disassembly of fixing block with contact block.



Assembly: Align the fixing slot on the fixing block to clip slot on the contact block.

Disassembly: Use flat screw-driver toward fixing slot to lift up clip and snap for disassembly.



#### Endosure contact

Before placing an order for finished products, please refer to the explanation of model numbers shown in this page.

### MODEL DESIGNATION(2~3 positions)

12	3(	4 5	6	$\overline{\mathcal{T}}$			
Designation	Signal Description						
4 Manuatina Hala	2	Ø22mm/Ø25mm					
1.Mounting Hole	3		Ø30mm				
	S	Knob operator					
2.Type	к	Key operator					
	Z	Keyo	nc alloy)				
	1	0 1	ition				
	2	0 1	ition				
3 Position	3	45° 2-Position		ition eturn from right			
3.Position	4	<sup>1</sup> <sup>0</sup> <sup>2</sup> 45° 3-Position		ition			
	5	1 2 90° 3-Position		ition			
	6		45° 3-Pos spring retu	ition urn from right and left			

тся 2 К 4 5 - 2 2209 А

	1		0,1 Key	with-drawable		
	2		0 Key with-drawable			
4 Ком	3	2-Position	1 Key with-drawabl			
Withdrawable (Only key operator)	4		0,1,2 Ke	ey with-drawable		
	5	3-Position	0 Key	with-drawable		
	6	0	0,1,2 Key with-drawable			
	7	3-Position	0 Key with-drawable			
	1	10A				
5.Capacity	2		16A			
	3		25A			
6.Wiring diagram		See page TA24~TA35				
	A	3313	E	3131		
7.Key number	В	1313	F	3133		
	С	1331	G	3212		
	D	3113	Н	3331		

### MODEL DESIGNATION(4~8 positions)

TCS 2 K	442	2	- 2	2418	Α
$\begin{array}{c} \top \\ 1 \\ 2 \end{array}$	3	$\overline{4}$	T 5	6	$\overline{\mathcal{O}}$

Designation	Signal	Description
1 Mounting Hole	2	Ø22mm/Ø25mm
	3	Ø30mm
	S	Knob operator
2.Type	К	Key operator

· · · · · · · · · · · · · · · · · · ·								
3.position, turn angle plate number	440 ≀ 842	See page TA23						
4.Key	1	Key with-drawable						
(Only key operator)	2	0 Key with-drawable						
	1	10A						
5.Capacity	2	16A						
	3	25A						
6.Wiring diagram		See page TA24~TA35						
	А	3313	E	3131				
7.Key number	В	1313	F	3133				
	С	1331 G 32		3212				
	D	3113	Н	3331				

### 



TEND TECHNOLOGY CO., LTD.

#### TCS

As to the order of components for DIY assembly, please refer to the following assembly illustration diagram.





#### Ø22/Ø25/Ø30lengend plates for operating devices, aluminum(m) or acrylic(p)

						-	-				-	-	В -	
TN22P-	TN2	22M-					A	В	С	D	]			
(Acrylic 22	2) (22 Alu	ıminum)				TN22P	Ø22.3	41	32	52.5				ÎÎ
TN25P-	TN2	25M-				TN22M	Ø22.2	31	26.7	42	]			ы
(Acrylic 25	5) (25 Alu	ıminum)				TN25P	Ø25.5	41	32	52.5			$\rightarrow$	
TN30P-	TN3	30M-				TN25M	Ø24.8	31	26.7	42			(++)	_ 1
(Acrylic 30	)) (30 Alu	ıminum)				TN30P	Ø30.5	41	32	52.5	_		$\sim$ /	
						TN30M	Ø30.2	38.3	32.7	51.9	A	$\nearrow$		
13	14	15			16	1	7		18		19		20	
OFF ON	ON ON	ONOFF	лс	FWD	D REV	/ FWDO	FF REV	AUT	to Mai	NU A	UTO OFF MA	NU	STOP START	
			-											-
21	22	00												
MANU OFF AUT	0 1 0 2	2												
			1											
71	72	73		74										
ΟΙ	I II	$I \cap I$	T	П	III									

### tend MULTI-OFF OF THE SWITCH

TCSP

TCS

#### 

- Use out of the need to handle before switching window in the ON position for the red, in the OFF position.
- The switches were 45 degrees-date, TCS64 assembly aperture and the same panel(see page Ta20)
- Holes pacing 48mm\*48mm.
- Block capacity to tap the color distinction 10A of blue, gray 16A, 25A black.

MODEL	Designation	Signal	Description	
DESIGNATION		1	10A	
TCSP6 - 11	1.Capacity	2	16A	
		3	25A	
12	2 Contact man	1	1a 0 1a	
	2.0011180111180	2	1a 0 1a Residue Report	

### **EXTERIOR DIMENSIONS, AND THE PANEL PLANS TAP**



#### TEND TECHNOLOGY CO., LTD.