

## SPECIFICATION

Frame (AF)	Type	Rated breaking capacity (KA)		Rated current (AMP) (AT)	Price	
		230V	380V		2 pole 2P	3 pole 3P
NF30	CS	2.5	1.5	10, 15, 20, 30	520.-	690.-
NF63	CW/CV	7.5	5	10, 16, 20, 25, 32, 40, 50, 63	890.-	1,200.-
NF125	CW/CV	30	10	50, 63, 80, 100	1,290.-	-
NF125	CW/CV	30	10	50, 63, 80, 100, 125	-	1,670.-
NF250	CW/CV	35	18	125, 150, 175, 200, 225, 250	-	3,200.-
NF400	CP/CW	50	40	250, 300, 350, 400	-	7,200.-
NF630	CP/CW	50	40	500, 600	-	15,700.-
NF800	SEP	50	40	800	-	18,000.-

## SAFETY BREAKER



Type	A	V	Price
TA-10A	10 A	240 A	115.-
TA-15A	15 A	240 A	115.-
TA-20A	20 A	240 A	115.-
TA-30A	30 A	240 A	115.-

- TEND
- BANDEX
- TAKAMURA**
- TEEFLEX
- KENION
- NISSEI
- ROSI
- APEKS
- LKEW
- TAC
- MARLOW
- HARU
- WIND SPEED
- COMMAX
- ADVANTE
- UNIVERSAL ADAPTER
- ALION
- EXOWELD
- CONTROL MAX
- JKN
- SYLVIA
- WANG
- MACCON

# Takamura MAGNETIC CONTACTOR

## แม่เหล็ก คอนแทกเตอร์



### SELECTION GUIDE

#### CONTACTORS S-N SERIES



S-N10



S-N11



S-N12



S-N20



S-N21

Type		S-N10	S-N11	S-N12
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	2.5 (3-1/4)	3.5 (4-1/2)	3.5 (4-1/2)
	380-440 V	4 (5-1/2)	5.5 (7-1/2)	5.5 (7-1/2)
	500 V	4 (5-1/2)	5.5 (7-1/2)	5.5 (7-1/2)
	660 V	4 (5-1/2)	5.5 (7-1/2)	5.5 (7-1/2)
Rated continuous current Ith A		20	20	20
Auxiliary contacts1	Standard	1NO	1NO	1NO + 1NC
	Special	1NC	1NC	2NO
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	1	1	1
	1NO + 1NC(side)	2	2	
	2NO + 2NC(front)	1	1	1
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	1	1	1
Price		400.-	420.-	495.-

Type		S-N20	S-N21	S-N25	S-N35
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	5.5 (7-1/2)	5.5 (7-1/2)	7.5 (10)	11 (15)
	380-440 V	11 (15)	11 (15)	15 (20)	18.5 (25)
	500 V	11 (15)	11 (15)	15 (20)	18.5 (25)
	660 V	7.5 (10)	7.5 (10)	11 (15)	15 (20)
Rated continuous current Ith A		32	32	60	60
Auxiliary contacts1	Standard	1NO+1NC	2NO + 2NC	2NO + 2NC	2NO + 2NC
	Special	2NO	-	-	-
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	1	1	1	1
	1NO + 1NC(side)	2	2	2	2
	2NO + 2NC(front)	1	1	1	1
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	1	1	1	1
Price		790.-	860.-	1,050.-	1,130.-

### SELECTION GUIDE

#### CONTACTORS S-N SERIES



S-N25

Type		S-N50	S-N65	S-N80
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	15 (20)	18.5 (25)	22 (30)
	380-440 V	22 (30)	30 (40)	45 (60)
	500 V	25 (30)	37 (40)	45 (60)
	660 V	22 (30)	30 (40)	45 (60)
Rated continuous current Ith A		80	100	135
Auxiliary contacts <sup>1</sup>	Standard	2NO + 2NC	2NO + 2NC	2NO + 2NC
	Special	-	-	-
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	-	-	-
	1NO + 1NC(side)	-	-	2
	2NO + 2NC(front)	1	1	-
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	-	-	-
Price		2,190.-	2,320.-	-



S-N35



S-N50

Type		SN-125	SN-150
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	37 (50)	45 (60)
	380-440 V	60 (80)	75 (100)
	500 V	60 (80)	90 (125)
	660 V	60 (80)	90 (125)
Rated continuous current Ith A		150	200
Auxiliary contacts <sup>1</sup>	Standard	2NO + 2NC	2NO + 2NC
	Special	-	-
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	-	-
	1NO + 1NC(side)	2	2
	2NO + 2NC(front)	-	-
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	-	-



S-N65

Notes : 1. Numbers of auxiliary contact shows that for non-reversing type. Twice of the auxiliary contacts are provided on reversing type.  
 2. (2NO + 2NC) x 2 auxiliary contacts are provided on reversing type and no additional contact can be mounted.  
 3. Front clip-on and side clip-on block should not be mounted both.

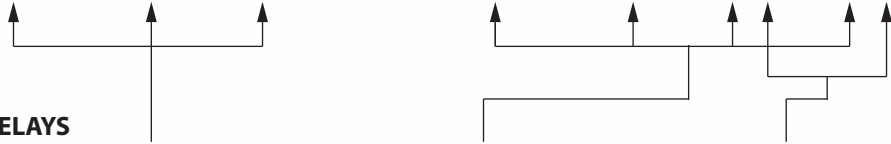
# Takamura THERMAL OVERLOAD RELAY

## เทอร์มอล โอเวอร์โหลด รีเลย์



### STATERS (AC OPERATED)

Enclosed type (IP20)	MS - N10 (KP)	MS - N11 (KP)	MS - N12 (KP)		MS - N20 (KP)	MS - N21 (KP)	MS - N25 (KP)	MS - N35 (KP)
Open type (IP00)	MSO - N10 (KP) (CX)	MSO - N11 (KP) (CX)	MSO - N12 (KP) (CX)	MSO - N12 (KP) (CX)	MSO - N20 (KP) (CX)	MSO - N21 (KP) (CX)	MSO - N25 (KP) (CX)	MSO - N35 (KP) (CX)



### THERMAL OVERLOAD RELAYS

Three heater types with phase failure protection	TH-N12KP(CX)	TH-N20KP(CX)	TH-N20TAKP(CX)
Two heater types	TH-N12 (CX)	TH-N20 (CX)	TH-N20TA (CX)
Price	460.-	480.-	540.-
Heater setting range A (Ordering designation)	1.4~2(1.7A)	1.4~2(1.7A)	18~26(22A)
	1.7~2.5(2.1A)	1.7~2.5(2.1A)	24~34(29A)
	2~3(2.5A)	2~3(2.5A)	30~40(35A) <sup>4</sup>
	2.8~4.4(3.6A)	2.8~4.4(3.6A)	
	4~6(5A)	4~6(5A)	
	5.2~8(6.6A)	5.2~8(6.6A)	
	7~11(9A)	7~11(9A)	
	9~13(11A) <sup>2</sup>	9~13(11A)	
		12~18(15A)	
		16~22(19A) <sup>3</sup>	

Note : 1. Saturable reactors for thermal overload relays are available as a kit or equipped with the relay. The suffix R following the model name of the relay indicated it saturable reactor (ex. TH-N20KPR\*5A) (Except for type TH-N12KP, TH-N18 and TH-N18KP)

2. Except for size N10.

3. For size N20 & N21 only.

4. For size N35 only

5. For size N95 only.



### ราคาคอยล์และหน้าทองขาว

Type	Coil price	Silver contact price
S-N10	165.-	180.-
S-N11	165.-	180.-
S-N12	165.-	210.-
S-N20	230.-	370.-
S-N21	230.-	370.-
S-N25	300.-	470.-
S-N35	300.-	550.-
S-N50	980.-	830.-
S-N65	980.-	1,250.-

# Takamura THERMAL OVERLOAD RELAY

## เทอร์มอล โอเวอร์โหลด รีเลย์



TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND  
SPEED

COMMAX

ADVANTE

UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

### STATERS (AC OPERATED)

Enclosed type (IP20)	MS - N50 (KP)	MS - N65 (KP)	MS - N80 (KP)	MS - N95 (KP)	MS - N125 (KP)	MS - N150 (KP)
Open type (IP00)	MSO - N50 (KP)	MSO - N65 (KP)	MSO - N80 (KP)	MSO - N95 (KP)	MSO - N125 (KP)	MSO - N150 (KP)

### THERMAL OVERLOAD RELAYS

Three heater types with phase failure protection	TH-N60KP	TH-N60TAKP	TH-N120KP	TH-N120TAKP
Two heater types	TH-N60	TH-N60TA	TH-N120	TH-N120TA
Heater setting range A (Ordering designation)	12~8 (15A)	54~80 (67A)	34~50 (42A)	85~125 (105A)
	18~26 (22A)	65~100 (82AA) <sup>5</sup>	43~65 (54A)	100~150 (125A) <sup>6</sup>
	24~34 (29A)	85~105 (95A) <sup>5</sup>	54~80 (67A)	
	30~40 (35A)		65~100 (82A)	
	34~50 (42A)			
	43~65 (54A)			

6. For size N150 only.

7. For size N220 only.

8. For size N400 only.

9. TH-N600(KP) must be used with the current transformers (to be supplied by the customer)

10. For size N800 only.

# Takamura GENERAL PURPOSE RELAY

รีเลย์

MY2N (with LED & test button)  
MY4N (with LED & test button)

125.-  
140.-



MY2



MY4

## DC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$
5	4.0	0.5	28
6	4.8	0.6	40
12	9.6	1.2	160
24	19.2	2.4	640
48	38.4	4.8	2560
110	88.0	11.0	12100

## AC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$
6	4.8	1.8	12
12	9.6	3.6	42
24	19.2	7.2	168
48	38.4	14.4	675
110	96.0	36.0	3500
220/240	176.0	66.0	14000/16500

## CONTACT SPECIFICATION

Contact form	2Z, 2H, 2D, 4Z, 4H, 4D
Contact resistance	<100M $\Omega$ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	2Z : 10A 250VAC / 30 VDC 4Z : 5A 250VAC / 30 VDC

## TECNICAL SPECIFICATION

Insulation resistance	$\geq 500M\Omega$ (500VDC) Between coil and contact $\geq 1,500VAC$ 1min
Dielectric strength	Between open contact $\geq 1,000VAC$ 1min Between contact of different poles $\geq 1,500VAC$ 1min
Operate / Release time	$\leq 25ms$ / 25ms
Terminal type	PCB and socket mounting

## MATCHED SOCKET PTF08A-E/PTF14A-E



PYF08A-E (MY2K)



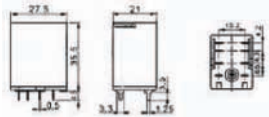
PYF14A-E (MY4K)

## COIL SPECIFICATION

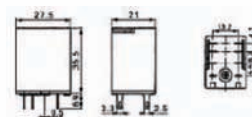
Rated coil power	0.9 W / 1.2 VA
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## OUTLINE DIMENSION, MOUNTING HOLES (BOTTOM VIEW) ■ WIRING DIAGRAM (BOTTOM VIEW)

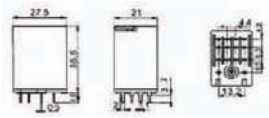
### MY2K Outline dimension & Mounting holes



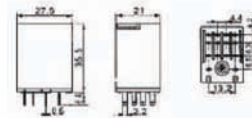
### MY2K Socket type outline dimension & Mounting holes



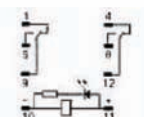
### MY4K Outline dimension & Mounting holes



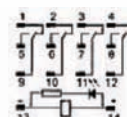
### MY4K Socket type outline dimension & Mounting holes



### MY2K Wiring diagram (Bottom view)



### MY4K Wiring diagram (Bottom view)



# Takamura GENERAL PURPOSE RELAY

รีเลย์

TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND  
SPEED

COMMAX

ADVANTE

UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

MY2 (with test button)  
MY4 (with test button)

95.-  
100.-



MY2



MY4

## DC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\pm 10\%$
5	4.0	0.5	28
6	4.8	0.6	40
12	9.6	1.2	160
24	19.2	2.4	640
48	38.4	4.8	2550
110	88.0	11.0	12100

## AC COIL DATA

Nominal voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance $\pm 10\%$
6	4.8	1.8	12
12	9.6	3.6	42
24	19.2	7.2	168
48	38.4	14.4	670
110	96.0	36.0	3500
220/240	176.0	66.0	14000/16500

## CONTACT SPECIFICATION

Contact form	2Z, 2H, 2D, 3Z, 3H, 3D, 4Z, 4H, 4D
Contact resistance	<100M $\Omega$ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	5A 250VAC / 30 VDC 3A 250VAC / 30 VDC

## TECNICAL SPECIFICATION

Insulation resistance	$\geq 500M\Omega$ (500VDC) Between coil and contact $\geq 1,500VAC$ 1min
Dielectric strength	Between open contact $\geq 1,000VAC$ 1min Between contact of different poles $\geq 1,500VAC$ 1min
Operate / Release time	$\leq 25ms$ / 25ms
Terminal type	PCB and socket mounting



PYF08A-E (MY2K)



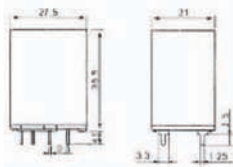
PYF14A-E (MY4K)

## COIL SPECIFICATION

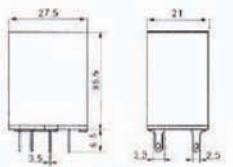
Rated coil power	0.9 W / 1.2 VA
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## OUTLINE DIMENSION, MOUNTING HOLES (BOTTOM VIEW) ■ WIRING DIAGRAM (BOTTOM VIEW)

- MY2 PCB type  
Outline dimension



- MY2 Socket type  
Outline dimension



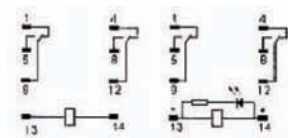
- Mounting holes  
(Bottom view)



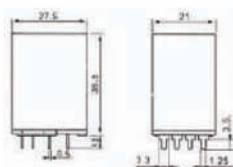
- Correct



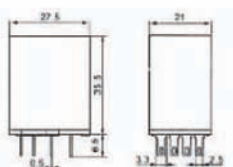
- Wiring diagram (Bottom view)



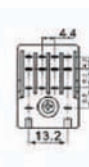
- MY4 PCB type  
Outline dimension



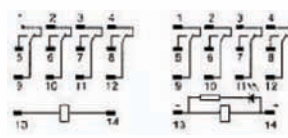
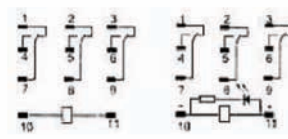
- MY4 Socket type  
Outline dimension



- Mounting holes  
(Bottom view)



- Incorrect



TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND  
SPEED

COMMAX

ADVANTE

UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

# Takamura GENERAL PURPOSE RELAY

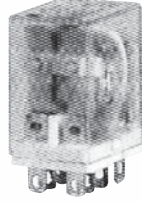
รีเลย์

LY2 (with Test Button)

100.-

LY2N (with LED &amp; Test Button)

130.-



13F (LY2)

## DC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$
5	4.0	0.5	28
6	4.8	0.6	40
12	9.6	1.2	160
24	19.2	2.4	640
48	38.4	4.8	2560
110	88.0	11.0	12100

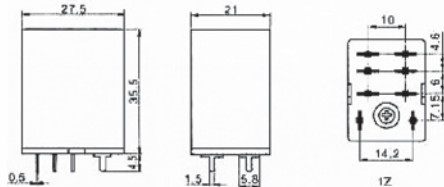
## AC COIL DATA

Nominal voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance $\Omega \pm 10\%$
6	4.8	1.8	12
12	9.6	3.6	42
24	19.2	7.2	168
48	38.4	14.4	675
110	96.0	36.0	3500
220/240	176.0	66.0	14000/16500

## Outline dimension, Mounting holes (Bottom view), Wiring diagram (Bottom view)

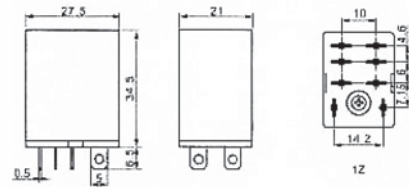
JOX-13F(LY2) PCB type Outline dimension

Mounting holes (Bottom view)



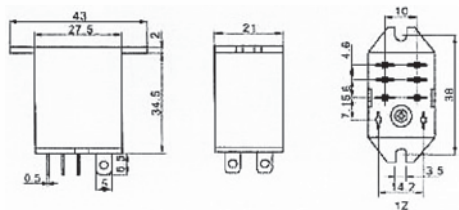
JOX-13F(LY2) Socket type Outline dimension

Mounting holes (Bottom view)

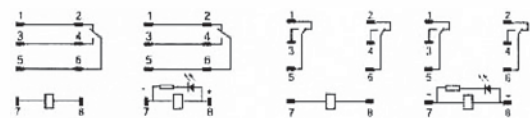


JOX-13F(LY2-S) Flange mounting type Outline dimension

Mounting holes (Bottom view)



Wiring diagram (Bottom view)



JOX-13F(LY1)

JOX-13F(LY1)-L

JOX-13F(LY2)

JOX-13F(LY2)-L

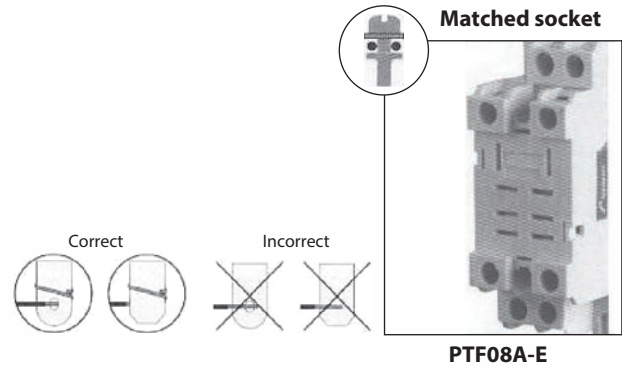
## CONTACT SPECIFICATION

Contact from	1Z, 1H, 1D, 2Z, 2H, 2D
Contact resistance	<100M $\Omega$ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	15A 250VAC / 28VDC 10A 250VAC / 28VDC

## TECNICAL SPECIFICATION

Insulation resistance	$\geq 500M\Omega$ (500VDC) Between coil and contact $\geq 1,500VAC$ 1min
Dielectric strength	Between open contact $\geq 1,000VAC$ 1min Between contact of different poles $\geq 1,500VAC$ 1min
Operate / Release time	$\leq 25ms$ / 25ms
Terminal type	PCB and socket mounting

## MATCHED SOCKET PTF08A-E



PTF08A-E

## COIL SPECIFICATION

Rated coil power	0.9 W / 1.2 VA
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\*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

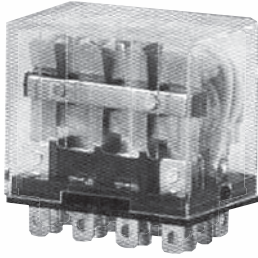


# Takamura GENERAL PURPOSE RELAY

รีเลย์

LY4 (with Test Button) 200.-

LY4N (with LED & Test Button) 230.-



## CONTACT SPECIFICATION

Contact from	4Z, 4H, 4D
Contact resistance	<100MΩ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	15A 250VAC / 28VDC 10A 250VAC / 28VDC

## TECNICAL SPECIFICATION

Insulation resistance	≥500MΩ (500VDC) Between coil and contact ≥1,500VAC 1min
Dielectric strength	Between open contact ≥1,000VAC 1min Between contact of different poles ≥1,500VAC 1min
Operate / Release time	≤ 25ms / 25ms
Terminal type	PCB and socket mounting

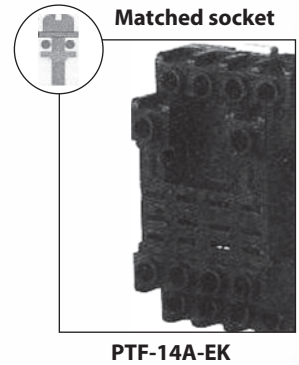
## DC COIL DATA (LY4)

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10%
5	4.0	0.5	16.6
6	4.8	0.6	24
12	9.6	1.2	100
24	19.2	2.4	360
48	38.4	4.8	1600
110	88.0	11.0	6900

## AC COIL DATA (LY4)

Nominal voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ω ±10%
6	4.8	1.8	5
12	9.6	3.6	20
24	19.2	7.2	78
48	38.4	14.4	320
110	96.0	36.0	2200
220/240	176.0	66.0	6700/9000

## MATCHED SOCKET PTF-14A-EK

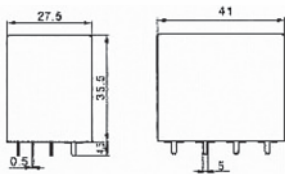


## COIL SPECIFICATION

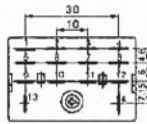
Rated coil power	1.5 W / 2.5 VA
------------------	----------------

## Outline dimension, Mounting holes (Bottom view), Wiring diagram (Bottom view)

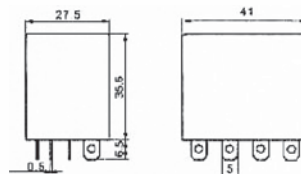
LY4 PCB type Outline dimension



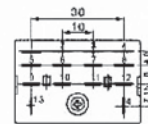
Mounting holes (Bottom view)



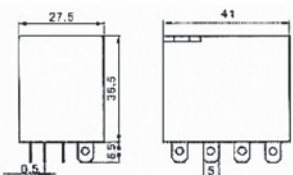
LY4 Socket type Outline dimension



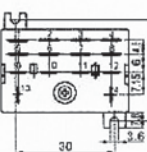
Mounting holes (Bottom view)



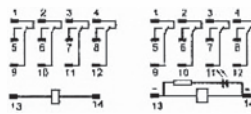
LY4 Flange mounting type Outline dimension



Mounting holes (Bottom view)

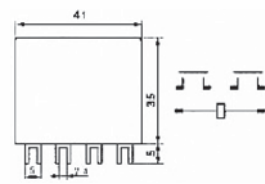


LY4 Wiring diagram (Bottom view)



LY4 (4Z)

JOX-981F PCB type Outline dimension



JOX-981F

# Takamura SCREW-ON WIRE CONNECTOR

## ໂວຣ໌ນ

- Tough thermoplastic, UL 94V-2 flame-retardant shell rated at 105°C (221°F).
- Zinc-plated square wire spring ensures a firm grip on conductors.
- Swept-back wing design provides finger-tip comfort and increases torquing power.
- Color-coded to industry standards for quick size identification.
- Rated to 600V max. for building wiring and 1000V max. in lighting fixtures / luminaires and signs.
- UL 486C listed and CSA C22.2 No.188 certified.
- Available in socket tools for easy installation of the connectors (see page 13).



	Dimensions (mm)	Cat no.	Color	Rating & Wire range (Cu)	Packing		Price / ວັດ
					Bag	Carton	
TAC		33-3	Orange	300V max. / 600V max. 105°C (221°F) 22-14 AWG, cu max.4 #16w / 1 #20 min.1 #18 w / 1 #20	100	1,000 10 bags	1.00.-
MARLOW							
HARU		44-3	Yellow	300V max. / 600V max. 105°C (221°F) 22-10 AWG, cu max.2 #12w / 2 #14 min.3 #20 Sol	100	1,000 10 bags	1.25.-
WIND SPEED							
COMMAX		66-3	Red	300V max. / 600V max. 105°C (221°F) 22-10 AWG, cu max.2 #10w / 2 #12 Str min.3 #18	100	1,000 10 bags	1.75.-
ADVANTE							

# Takamura SCREW-ON WIRE CONNECTOR

ໄວຣ໌້ນ



- Flame retardant themoplastic shell provides excellent electrical insulation.

- Square wire spring provides more securely gripping onconductors.

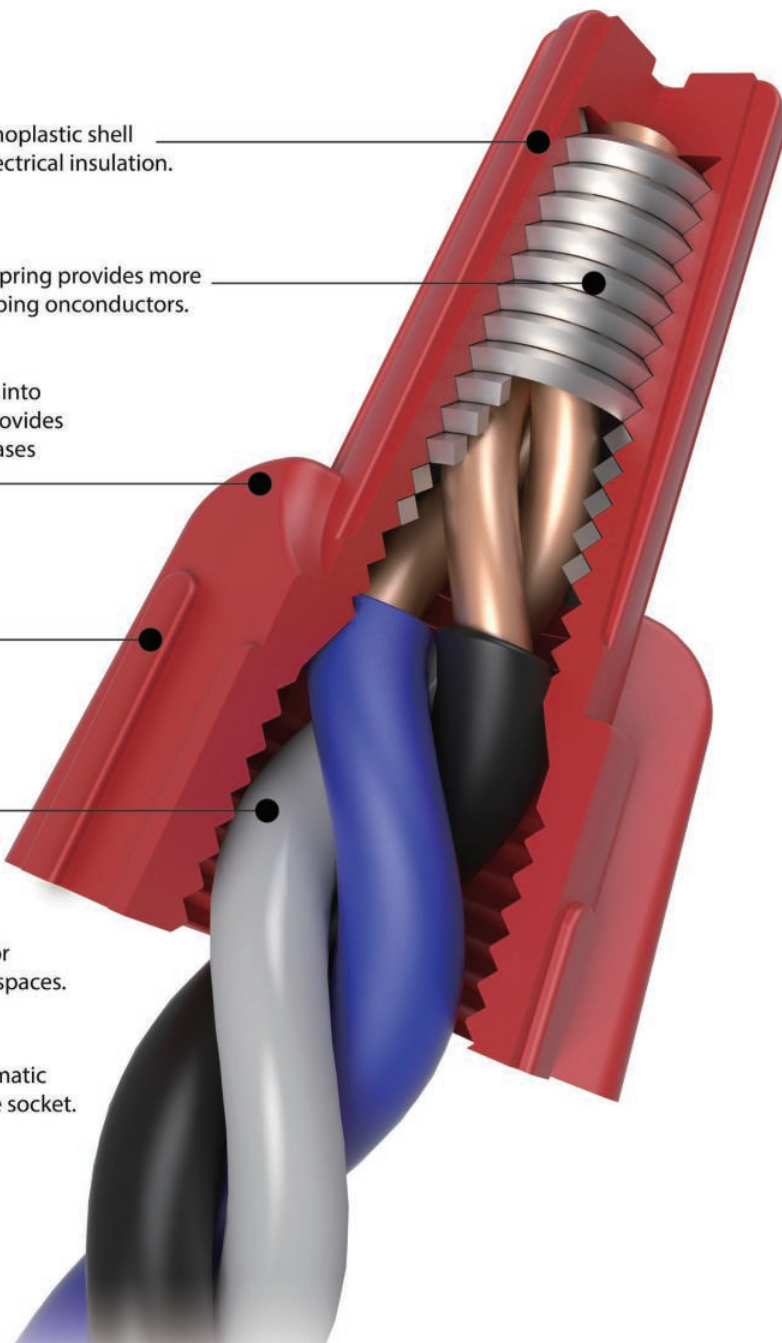
- Swept-back wing design fits into your fingers naturally and provides finger-tip comfort and increases torquing power.

- Gripping ribs on the surface of connector provide more grasp and reduce slip through your fingers.

- Deep skirt entry provides protection from flashover and shorts.

- Perfect sized design makes it easier for fingers twisting and working in tight spaces.

- Socket tools are available for fitting any pneumatic or electrical tool with a 1/4 inch chuck or drive socket.



TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND SPEED

COMMAX

ADVANTE

UNIVERSAL ADAPTER

ALION

EXOWELD

CONTROL MAX

JKN

SYLVIA

WANG

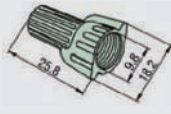
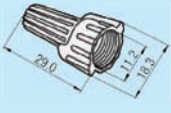
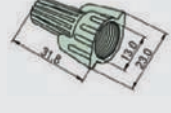
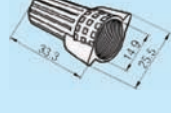
MACCON

# Takamura WINGED WIRE CONNECTOR

## ไวร์นัทแบบมีปีก

- Tough thermoplastic, UL 94V-2 flame-retardant shell rated at 105°C (221°F).
- Zinc-plated square wire spring ensures a firm grip on conductors.
- Swept-back wing design provides finger-tip comfort and increases torquing power.
- Color-coded to industry standards for quick size identification.
- Rated to 600V max. for building wiring and 1000V max. in lighting fixtures / luminaires and signs.
- UL 486C listed and CSA C22.2 No.188 certified.
- Available in socket tools for easy installation of the connectors (see page 13).



Dimensions (mm)	Cat no.	Color	Rating & Wire range (Cu)	Packing		Price / ๕๐
				Bag	Carton	
	<b>P11V</b>	Yellow	300V max. / 600V max. 105°C (221°F) 18-10 AWG, cu max.2 #12w / 1 #14 min.3 #18	100	1,000 10 bags	<b>2.50.-</b>
	<b>P12</b>	Tan	600V max. 105°C (221°F) 22-18 AWG, cu max.4 #12 min.3 #22 sol	100	1,000 10 bags	<b>3.25.-</b>
	<b>P13</b>	Red	300V max. / 600V max. 105°C (221°F) 18-8 AWG, cu max.5 #12 sol min.3 #16	100	1,000 10 bags	<b>3.75.-</b>
	<b>P15</b>	Gray	600V max. 105°C (221°F) 18-8 AWG, cu max.3 #10 min.3 #14 w / 1 #18	50	1,000 20 bags	<b>6.00.-</b>

# Takamura RELEASABLE WIRE CONNECTOR

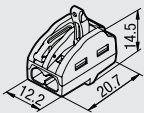
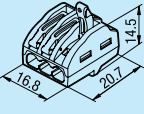
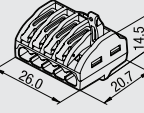
## ขั้วต่อสายแบบถอดออกได้

- Polycarbonate polyamide 66, UL 94V-0 flame-retardant shell rated at T85 (IEC), 105°C/ 221°F (UL).
- Spring force connector constructed from tinned copper plate and stainless spring steel.
- No tools required, just put the orange levers to 90° and insert conductors and then put the levers back in place.
- Accept any combination of solid, stranded and flexible conductors from 0,2 mm<sup>2</sup> / 28 AWG up to 4,0 mm<sup>2</sup> / 12 AWG.
- Clear shell gives visual verification of connection.
- Rated to 600V max. for building wiring and 1000V max. in lighting fixtured/ luminaires and signs.
- IEC/ EN 60998 certified and UL 486C listed.



### PC62 \* SERIES



Dimensions (mm)	Cat no.	Color	Port	Electrical rating & wire range	Packing		Price / ชิ้น
					Bag	Carton	
	PC622	Clear + Orange	2	32A, 450V, T85°C 0, 2-4 mm <sup>2</sup> , Rigid/ flexible	100	1,000 10 bags	10.-
	PC623	Clear + Orange	3		100	1,000 10 bags	12.-
	PC625	Clear + Orange	5	600V, 105°C (221°F) 28-14 AWG, Sol/ Str Cu 12 AWG, Sol Cu	100	1,000 10 bags	15.-

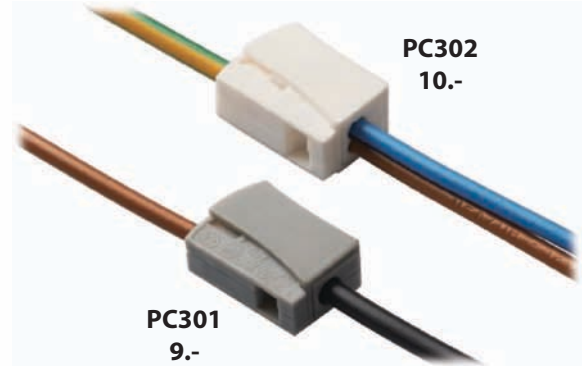
TEND  
BANDEX  
TAKAMURA  
TEEFLEX  
KENION  
NISSEI  
ROSI  
APEKS  
LKEW  
TAC  
MARLOW  
HARU  
WIND SPEED  
COMMAX  
ADVANTE  
UNIVERSAL ADAPTER  
ALION  
EXOWELD  
CONTROL MAX  
JKN  
SYLVIA  
WANG  
MACCON

# Takamura EASY-LINK LIGHTING CONNECTOR

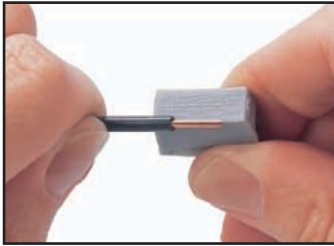
## ขั้วต่อสายแบบ EASY-LINK

### NO TWISING JUST PUSH IN QUICK & SAFE REDUCE INSTALLATION COST

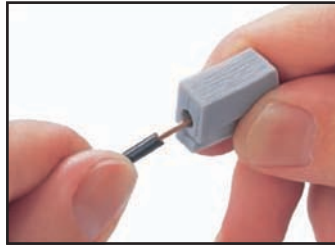
- Two side entries for connecting single/ dual conductor.
- Accept solid and stranded conductors up to 2, 5 mm<sup>2</sup>/ 18-16 AWG.
- Test slot permits easy testing your connectors with a voltage tester.
- Besides lighting fixtures, can be used in other applications utilizing solid and stranded conductors.



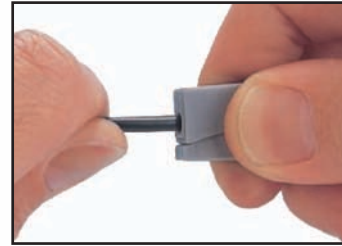
### ■ INSTALLATION SIDE (ROUND ENTRY) FOR SOLID WIRE :



- Strip wire 9-11 mm/ 0.35-0.43 in.



- To connect push stripped solid conductor into round entry hole fully to stop.



- To remove, hold conductor and twist connector alternately left and right while pulling on the conductor.

### ■ LIGHTING SIDE (SQUARE ENTRY) FOR SOLID/STRANDED WIRES :



- To connect, press button fully and insert stripped conductor into square entry and release.



- To remove, push button and withdraw conductor.



- Use a voltage tester to test your connector via separate slot.

# Takamura MICRO METER / HOUR METER

## ไมโครมิเตอร์ / มิเตอร์นับชั่วโมง

TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND  
SPEED

COMMAX

ADVANTE

UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

### MICRO METER (ANALOG)



Code	Dimension (mm.)	Range ( $\mu$ A)	Packing	Price
			Pcs / Box	
AM-85C-200uA	85 x 85	0 - 200	1	240.-
AM-85C-300uA		0 - 300		240.-
AM-85C-500uA		0 - 500		240.-

### HOUR METER (DIGITAL)



Code	Dimension (mm)	Range (hour)	Additional function	Packing	Price
				Pcs / box	
HM-D48	48 x 48	00 - 999	With check and reset button	1	450.-

# Takamura CURRENT TRANSFORMER

## หม้อแปลงกระแส



RCT-35



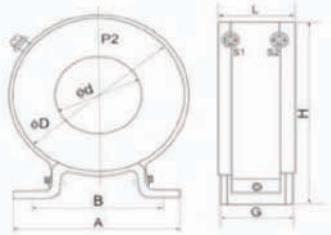
RCT-58



RCT-90



RCT-110



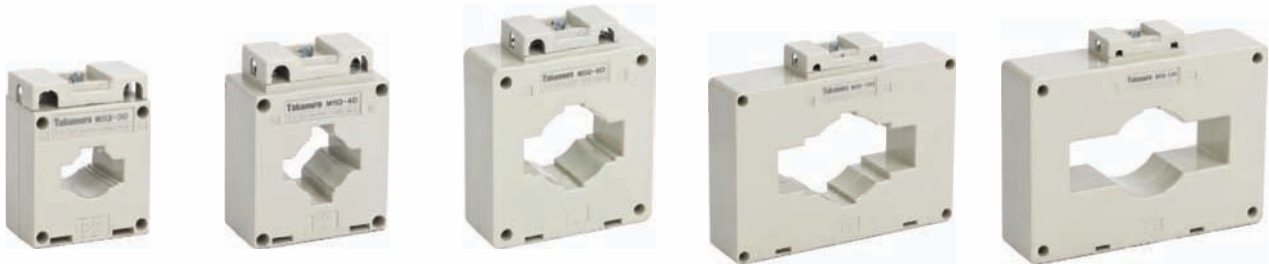
Model	Ød	A	B	ØD	G	H	L
RCT	35	95	80	78	45	90	54
	58	110	88	100	45	113	56
	90	110	88	135	38	147	40
	110	110	88	163	38	177	40

Type	Rated transformation ratio(A)	Busbar mounting hole size	Rated load (VA)	Accuracy class	Rated voltage(V)	Rated frequency(V)	Price
RCT-35	10/5A	Ø35	1.5~2.5	1.0	660V	50 / 60	363.-
	20/5A						363.-
	30/5A						363.-
	50/5A						363.-
	60/5A						363.-
	100/5A						363.-
	150/5A						363.-
	200/5A						363.-
	250/5A						363.-
	300/5A						363.-
RCT-58	400/5A	Ø58	5~10	0.5	660V	50 / 60	363.-
	250/5A						425.-
	300/5A						425.-
	500/5A						425.-
	600/5A						425.-
	800/5A						425.-
RCT-90	800/5A	Ø90	5~10	0.5	660V	50 / 60	600.-
	1000/5A						740.-
	1200/5A						835.-
	1500/5A						920.-
RCT-110	1500/5A	Ø110	15~20	0.5	660V	50 / 60	975.-
	2000/5A						1,200.-
	2500/5A						1,600.-
	3000/5A						1,620.-
	4000/5A						2,315.-



# Takamura CURRENT TRANSFORMER

## หม้อแปลงกระแส



MSQ-30

MSQ-40

MSQ-60

MSQ-100

MSQ-120

Model	Rated current (A)	Busbar mounting hole size	Rated load (VA)	Accuracy class	Rated voltage(V)	Rated frequency (Hz)	Price
MSQ-30	10/5	30 x 10 mm	1.5 - 2.5	1.0	660V	50 / 60	167.-
	20/5						167.-
	30/5						167.-
	40/5						167.-
	50/5						167.-
	60/5						167.-
	100/5						167.-
	150/5						167.-
	200/5						167.-
MSQ-40	200/5	40 x 10 mm	5 - 10	1.0	660V	50 / 60	167.-
	250/5						167.-
	300/5						167.-
	400/5						167.-
MSQ-60	400/5	60 x 20 mm	5 - 10	0.5	660V	50 / 60	278.-
	500/5						278.-
	600/5						300.-
	800/5						300.-
MSQ-100	1000/5	100 x 30 mm	15	0.5	660V	50 / 60	370.-
	1,200/5						426.-
	1,500/5						426.-
	2,000/5						556.-
	2,500/5						723.-
	3,000/5						834.-
MSQ-120	2,000/5	120 x 30 mm	15-20	0.5	660V	50 / 60	750.-
	2,500/5						1,025.-
	3,000/5						1,134.-
	4,000/5						1,334.-

- TEND
- BANDEX
- TAKAMURA
- TEEFLEX
- KENION
- NISSEI
- ROSI
- APEKS
- LKEW
- TAC
- MARLOW
- HARU
- WIND SPEED
- COMMAX
- ADVANTE
- UNIVERSAL ADAPTER
- ALION
- EXOWELD
- CONTROL MAX
- JKN
- SYLVIA
- WANG
- MACCON

# Takamura

## SPECIFICATION CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



### ■ PERFORMANCE CHARACTERISTICS

- High-precision measurement of active power and reactive power of single and three-phase grids.
- Provide digital tube or LCD display, local data query.
- Programmable current and voltage ratio
- Auxiliary power supply : AC220V

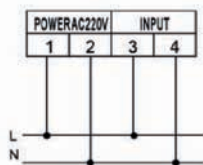
### ■ TECHNICAL INDICATORS

Measurement accuracy	
Active power	Level 0.5
Reactive power	Level 0.5
Inspecting power	Level 0.5

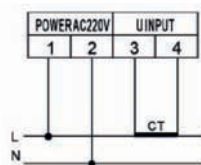
Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

Signal input	
Wiring	Single-phase, three-phase, four-wire, three-phase, three-wire
Rated voltage	AC 57.7V, AC 100V, AC 220V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1 second (instantaneous)
	Current : 1.2 times (continuous), 10 times / 5 second (instantaneous)
Power consumption	Voltage : <1VA / phase
	current : <0.4VA / phase
Impedance	Voltage : >300k $\Omega$
	current : <20m $\Omega$
Frequency	45~65Hz

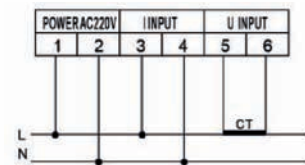
### ■ WIRING DIAGRAM



**V and Hz  
wiring diagram**



**A  
wiring diagram**



**COS and W  
wiring diagram**

# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



### ■ PERFORMANCE CHARACTERISTICS

- High-precision measurement of three-phase voltage current or three-phase voltage.
- Provide digital tube display, local data query.
- Current ratio programmable.
- Support RS-485 communication, modbus-RTU protocol
- Supports digital input, digital output, analog output
- Auxiliary power supply : AC/DC 80V~270V, AC220V, AC380V, AC100V
- A variety of shape options to meet the requirements of different cabinet electrical circuits.

### ■ TECHNICAL INDICATORS

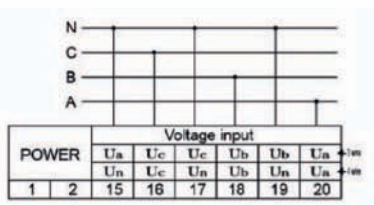
Measurement accuracy	
Current and voltage	Level 0.5

Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

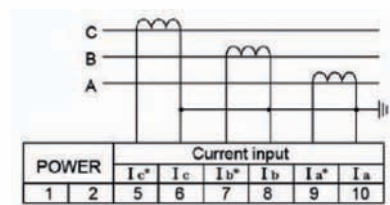
Three-phase current signal input	
Wiring	three-phase, four-wire, three-phase, three-wire
Rated current	AC 1A, AC 5A
Overload	1.2 times (continuous), 10 times / 5 second (instantaneous)
Power consumption	<0.4VA / phase
Impedance	<20mΩ
Frequency	45~65Hz

Three-phase voltage signal input	
Wiring	three-phase, four-wire, three-phase, three-wire
Rated current	AC 57.7V, AC 100A, AC 220V, AC 380V
Overload	1.2 times (continuous), 2 times / 1 second (instantaneous)
Power consumption	<1VA / phase
Impedance	<300mΩ
Frequency	45~65Hz

### ■ WIRING DIAGRAM



Three-phase voltage wiring diagram



Three-phase voltage wiring diagram

- TEND
- BANDEX
- TAKAMURA
- TEEFLEX
- KENION
- NISSEI
- ROSI
- APEKS
- LKEW
- TAC
- MARLOW
- HARU
- WIND SPEED
- COMMAX
- ADVANTE
- UNIVERSAL ADAPTER
- ALION
- EXOWELD
- CONTROL MAX
- JKN
- SYLVIA
- WANG
- MACCON

# Takamura

## SPECIFICATION CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



### ■ PERFORMANCE CHARACTERISTICS

- High-precision measurement of single-phase voltage, current, frequency or three-phase current and voltage.
- Provide digital tube or LCD display, local data query.
- Programmable current and voltage ratio

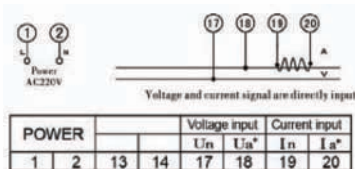
### ■ TECHNICAL INDICATORS

Measurement accuracy	
Active power	Level 0.5
Reactive power	Level 0.5
Frequency	$\pm 0.02\text{Hz}$

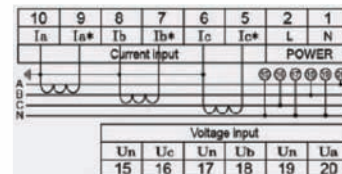
Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

Three-phase combined, single-phase combined signal input	
Wiring	three-phase four-wire, three-phase three-wire
Rated voltage	AC 57.7V, AC 100V, AC 220V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1 second (instantaneous)
	Current : 1.2 times (continuous), 10 times / 5 second (instantaneous)
Power consumption	Voltage : <1VA / phase
	current : <0.4VA / phase
Impedance	Voltage : >300k $\Omega$
	current : <20m $\Omega$
Frequency	45~65Hz

### ■ WIRING DIAGRAM



Single-phase combination meter  
wiring diagram



Three-phase combination meter  
wiring diagram

# Takamura SPECIFICATION

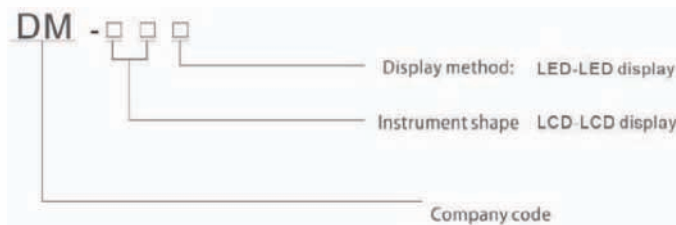
## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



### ■ PRODUCT STANDARDS

- **GB/T 22264. 1-2008**  
Mounted digital display electrical measuring instruments - Part 1 : Difinitions and general requirements.
- **GB/T 22264. 7-2008**  
Mounted digital display electrical measuring instruments - Part 7 : Particular requirements.
- **GB/T 22264. 8-2008**  
Mounted digital display electrical measuring instruments - Part 8 : Recommended method.
- **GB/T 17215. 322-2008**  
Electrical measuring equipment - particular requirements - Part 22 : Static active energy meters (0.2s and 0.5s).
- **GB/T 17215. 323-2008**  
Electrical measuring equipment - particular requirements - Part 23 : Static reactive energy meters (2 and 3).
- **DL/T 614-2007**  
Multi-function electric energy meter.
- **GB 14287-2005**  
Electrical fire monitoring system.
- **GB500045-95**  
High-rise civilbuilding design fire protection specification.
- **GB500054-95**  
Low-voltage power distribution design specification.
- **GB500096**  
Residentail design code.
- **GB13955-2005**  
Installation and operation of residual current operated protection devide.
- **GB500016-2006**  
Architectural design code for fire protection.

### ■ MODEL NAME

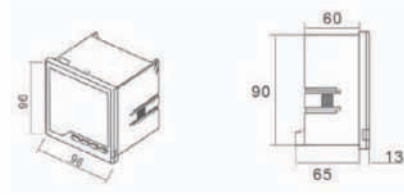


Outline code	Face size (mm)	Hole size (mm)
9	96x96	91x91

- TEND
- BANDEX
- TAKAMURA
- TEEFLEX
- KENION
- NISSEI
- ROSI
- APEKS
- LKEW
- TAC
- MARLOW
- HARU
- WIND SPEED
- COMMAX
- ADVANTE
- UNIVERSAL ADAPTER
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- WANG
- MACCON

# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



### PERFORMANCE CHARACTERISTICS

- High-precision measurement of single-phase current or voltage.
- Provide digital tube or LCD display, local data query.
- Current radio programmable.
- Auxiliary power supply : AC220V

Surroundings	
Operating temperature	-10°C ~ +55°C
Storage temperature	-25°C ~ +70°C
Relative humidity	≤93%, non-corrosive gas place
altitude	≤2500m

Safety	
Insulation resistance	>100M Ω
AC withstand voltage	AC 2KV

Safety	
Insulation resistance	>100M Ω
AC withstand voltage	AC 2KV

Electromagnetic compatibility	
Electrostatic discharge	level 4
Electric fast transient burst	level 4
Surge	level 4

### TECHNICAL INDICATORS

Measurement accuracy		Auxiliary power	
Current and voltage	Level 0.5	The scope of work	AC220V
		Power consumption	<4VA

Current signal input	
Wiring	Simplex
Rated current	AC 1A, AC 5A, DC 20mA, DC 1A, DC 5A, DC 75 mV
Overload	1.2 times (continuous), 10 times / 5 seconds (instantaneous)
Power consumption	<0.4VA / phase
Impedance	<20mΩ
Frequency	45~65Hz

Voltage signal input	
Wiring	Simplex
Rated voltage	AC 200V, AC 380V
Overload	1.2 times (continuous), 2 times / 1 seconds (instantaneous)
Power consumption	<1VA / phase
Impedance	<300k Ω
Frequency	45~65Hz or DC

### PRODUCT STANDARDS

- **GB/T 22264. 1-2008**  
Mounted digital display electrical measuring instruments - Part 1 : Difinitions and general requirements.
- **GB/T 22264. 2-2008**  
Mounted digital display electrical measuring instruments - Part 2 : Particular requirements of ammeters and voltmeters.
- **GB/T 22264. 3-2008**  
Mounted digital display electrical measuring instruments - Part 3 : Particular requirements for the power meter and reactive power meter.
- **GB/T 22264. 4-2008**  
Mounted digital display meter - Part 4 : particular for requirements frequency tables.
- **GB/T 22264. 5-2008**  
Mounted digital display electrical measuring instruments - Part 5 : particular requirements for phase meter and power factor meters.
- **GB/T 22264. 8-2008**  
Mounted digital display electrical measuring instruments - Part 8 : Recommended test methods.

### MODEL NAME



Outline code	Corresponding pointer table model	Face size (mm)	Hole size (mm)
96	96 square	96x96	91x91
80	80 square	80x80	76x76

# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



### TECHNICAL INDICATORS

Measurement accuracy	
Frequency	±0.02Hz

Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

Signal input	
Wiring	Simplex
Rated current	45~65Hz
Overload	AC 57.7V, AC 100V, AC 220V, AC 380V
Power consumption	1.2 times(continuous), 2 times / 1second (instaneous)
Impedance	<1VA / phase
Frequency	>300K Ω

### DM SERIES DIGITAL DISPLAY POWER FACTOR METER



### TECHNICAL INDICATORS

Measurement accuracy	
Measurement accuracy	Level 0.5

Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

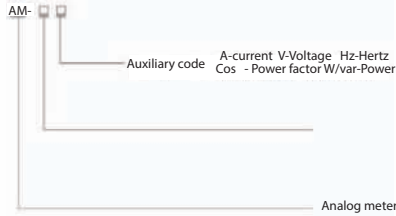
Signal input	
Wiring	Single-phase, three-phase three-wire
Rated voltage	AC 57.7V, AC 100V, AC 200V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1second (instaneous) Current : 1.2 times (continuous), 10 times / 5 seconds (instantaneous)
Power consumption	Voltage : <1 VA / phase Current : <0.4VA / phase
Impedance	Voltage : >300K Ω Current : 20m Ω
Frequency	45~65Hz

- TEND
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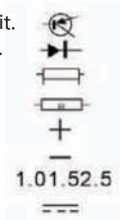
# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

### TYPE DESCRIPTION



- Electronic device in a measure circuit.
- Rectifier (instrument with AC input).
- Shunt
- Additional terminal
- Positive terminal
- Negative terminal
- Class index
- DC



### DIMENSIONS

Type code	Analog meter	Panel size (mm)	Hole size (mm)
96	96 square	96x96	91x91
80	80 square	80x80	76x76

- AC
- Testing voltage higher than 2000V
- Vertical mounting (for example 50 deg.)
- Inclined mounted (for example 50 deg.)
- Moving coil for instruments
- Moving iron for instruments
- Bimetal instruments
- Vibrating reeds instruments



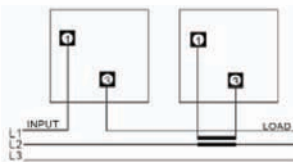
### ANALOG PANEL METER 96x96 MM

- Accuracy class : 1.5, 2.5
- Operating frequency : 45-65Hz
- Dielectric test voltage : 2KV / 50Hz / 1 minute
- Overload AC voltage : x1.2 continuous (x2 for 5 seconds)
- AC current : x1.2 continuous (x10 for 5 seconds)

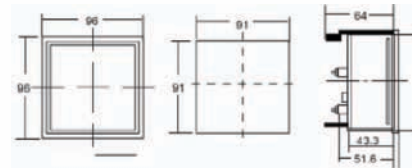
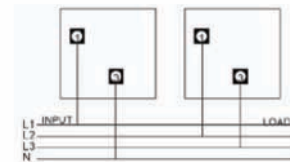
#### Power consumption

Voltage from 1 to 4VA : 1.8VA for 250V .3.3VA for 500V  
 Current from 0.3 to 1.5 VA for 1A.1.2A for 5A  
 Reference temperature : 23 □ ±2°C  
 Operating temperature : -25 □ to □40°C  
 Storage temperature : -40 □ to 70 □  
 Relative humidity : <85%

### Amp meter

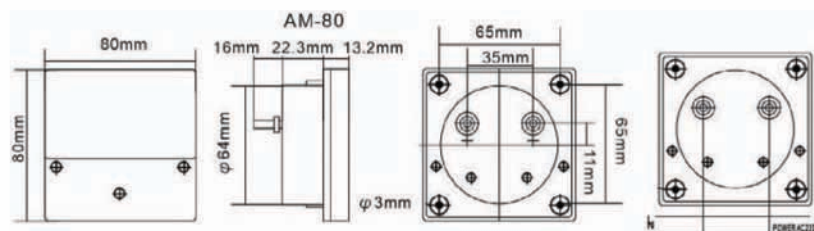


### Volt meter



### VOLT METER AND AMP METER 96x96 MM

Model	Connection	Measuring range		
AM-96V	Direct connector	0-300V . 0-500V		
AM-80V	Direct connector	0-300V . 0-500V		
AM-96A	Connect with CT X / 5A	5/5A	10/5A	15/5A
		20/5A	30/5A	40/5A
		50/5A	60/5A	80/5A
		100/5A	125/5A	150/5A
		200/5A	250/5A	300/5A
		400/5A	500/5A	600/5A
		800/5A	1000/5A	1200/5A
		1250/5A	1500/5A	1600/5A
		2000/5A	2500/5A	3000/5A
3200/5A	4000/5A	5000/5A		





# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

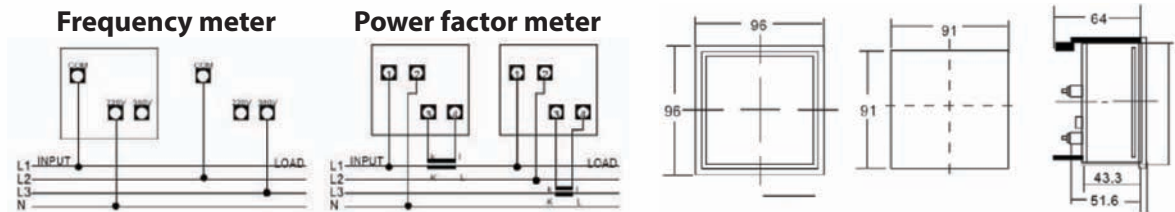


### POWER FACTOR METER

Model	Input voltage	Accuracy class	Active	Input current	Measuring range
AM-96P	220V	2.5	1P	5A	Cap 0.5...1...0.5 IND
AM-96P	380V	2.5	1P	5A	Cap 0.5...1...0.5 IND

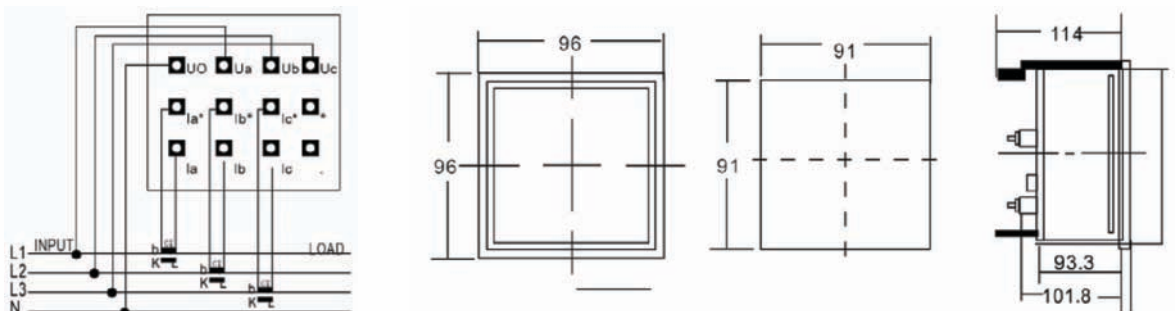
### FREQUENCY METER

Model	Type	Accuracy class	Input current	Measuring range
AM-96FP	-	1.0	220V, 380V	45...55Hz, 45...65Hz
AM-96FR	-	1.5	220V, 380V	45...55Hz



### ACTIVE POWER METER

Model	Measuring range		
AM-96KW	0-3KW (CT5/5A)	0-60KW (CT100/5A)	0-600KW (CT1000/5A)
	0-8KW (CT10/5A)	0-100KW (CT150/5A)	0-800KW (CT1200/5A)
	0-10KW (CT15/5A)	0-150KW (CT200/5A)	0-1MW (CT1500/5A)
	0-15KW (CT20/5A)	0-160KW (CT250/5A)	0-1.2MW (CT1600/5A)
	0-20KW (CT30/5A)	0-200KW (CT300/5A)	0-1.5MW (CT2000/5A)
	0-25KW (CT40/5A)	0-250KW (CT400/5A)	0-1.6MW (CT2500/5A)
	0-30KW (CT50/5A)	0-300KW (CT500/5A)	0-2MW (CT3000/5A)
	0-40KW (CT60/5A)	0-400KW (CT600/5A)	0-2.5MW (CT4000/5A)
	0-50KW (CT 80/5A)	0-500KW (CT 800/5A)	0-3MW (CT 5000/5A)

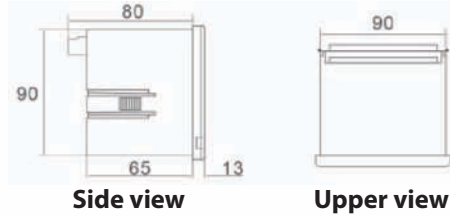
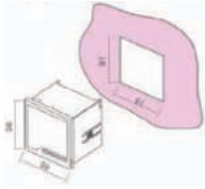


- TEND
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# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

### ■ PERFORMANCE CHARACTERISTICS



Face size (mm)	Hole size (mm)
96	96 square
80	80 square

- High-precision measurement of three-phase voltage, three current, active power, reactive power, apparent power, power factor, frequency and other electrical parameters.
- Positive and negative active/reactive energy metering.
- Time-sharing energy metering, time-sharing energy meter reading.
- Measuring the total harmonic distorting rate (THD) of three-phase voltage and three-phase current, 2-31 odd harmonic components.
- Provide digital tube or LCD display, local data query.
- Intuitive menu, simple button operation.
- Programmable current and voltage ratio.
- Provide multi-loop leakage current monitoring.
- Provide multi-loop control node for alarm, trip, etc.
- Support fire linkage, remotely cut off fault loop.
- Support RS-485 communication, modbus-RUT protocol.
- Supports digital input, digital output, analog output, and energy pulse output.
- Easy installation, simple wiring and small amount of engineering.
- Auxiliary power supply : AC/DC 80V~270V, AC220V, AC380V, AC100V
- Can complete the networking of multiple communication software in SCADA and PLC.

### ■ TECHNICAL INDICATORS

Measurement accuracy			
Voltage	0.5 or 0.2	Power factor	Level 0.5
Current	0.5 or 0.2	Frequency	+0.02Hz
Active power	Level 0.5	Active energy	0.5S or 0.2s
Reactive power	Level 0.5	Reactive energy	Level 1 or Level 2

Signal input	
Wiring	Three-phase four-wire, Three-phase three-wire
Rated voltage	AC 57.7V, AC 100V, AC220V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1 second (instantaneous) Current : 1.2 times (continuous), 10 times / 5 seconds (instantaneous)
Power consumption	Voltage : < 1VA/phase, current : <0.4VA/phase
Impedance	Voltage : >300k $\Omega$ , current : <20m
Frequency	45~65Hz

Functional module	
Communication interface	Support 1 channel RS-485 communication, Modbus-RTU protocol Baud rate : 1200~9600 bps, default 2400 bps
Switch input	Support 4 dry node inputs
Switch output	Support 3 relay outputs, capacity : AC 250V/5A, DC 30V/5A
Transmitting output	Support 1 analog output : 0/4~20mA or 0~5/10A
Power pulse output	Support 2 channels of energy pulse output, constant : 8000/KWh (KvaXD)

Auxiliary power			
The scope of work	AC/DC : 80V~270V	Power consumption	<4VA

# Takamura SPECIFICATION

## CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

TEND

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TAKAMURA

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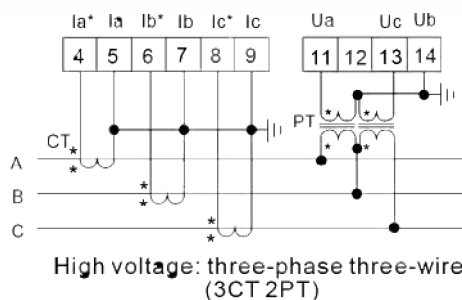
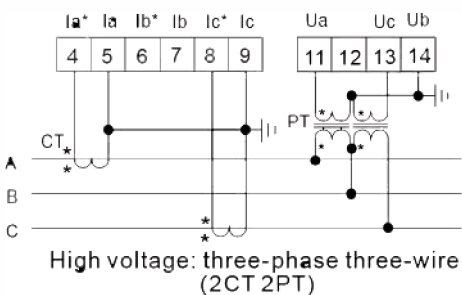
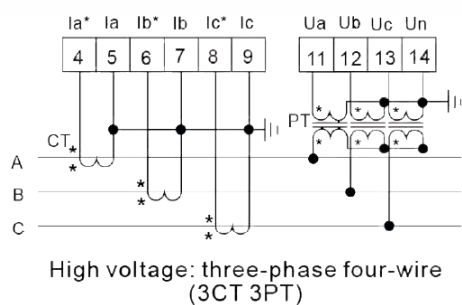
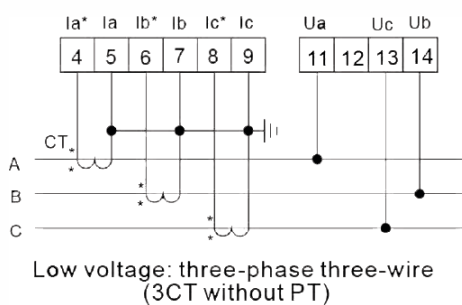
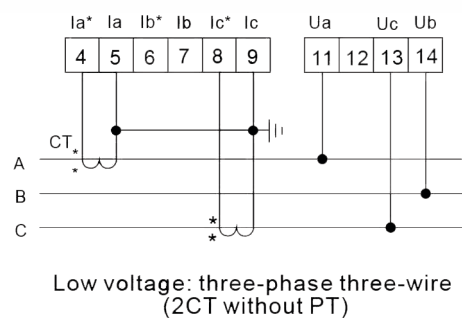
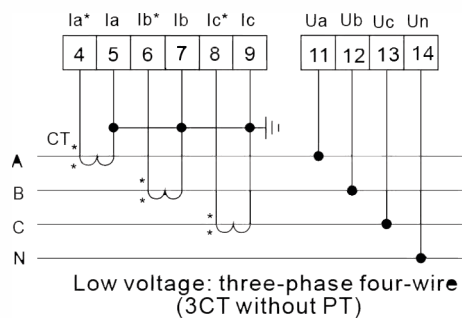
SYLVIA

WANG

MACCON

Surroundings	
Operating temperature	-10 C ~ +55 C
Storage temperature	-25 C ~ 70 C
Relative humidity	<93% , non-corrosive gas place
Altitude	≤2,500m
Safety	
Insulation resistance	>100M
AC withstand voltage	AC 2KV
Electromagnetic compatibility	
Electrostatic discharge	Level 4
Electrical fast transient burst	Level 4
Surge	Level 4

### TYPICAL SIGNAL WIRING DIAGRAM



# Takamura AMMETER / VOLTMETER

## แอมป์มิเตอร์ / โวลท์มิเตอร์

### AMMETER

### แอมป์มิเตอร์



Type	Code	Dimension	Specification	Price
Analog แบบเข็ม	AM-80A-□A	80 x 80 mm	ค่าคงที่ 5 10 15 20 30 40 50 60 100	135.-
	AM-80A-□/5A		20 30 50 60 100 150	
	AM-96A□A	96 x 96 mm	ค่าคงที่ 60A 100A	225.-
	AM-96A□/5A		10 20 30 40 50 60 100 150 200 250 300 400 500 600 800 1000 1200 1500 2000 2500 3000 4000	
Digital แบบดิจิตอล	DM-80A	80 x 80 mm	0-60 A	400.-
	DM-96A	96 x 96 mm	5A (set 0-9999A/)	600.-
	DM-96-3A		3 IwA 5A (set 0-9999A/)	1,700.-

### VOLTMETER

### โวลท์มิเตอร์



Type	Code	Dimension	Specification	Price
Analog แบบเข็ม	AM-80V-V AC	80 x 80 mm	0-300V, 0-500V	135.-
	AM-96V-V AC	96 x 96 mm	0-300V - 0-500V	215.-
Digital แบบดิจิตอล	DM-80V	80 x 80 mm	80-500V	300.-
	DM-96V	96 x 96 mm	0-600V	600.-
	DM-96V-3V		3 IwA V, 0-600V	1,700.-

# Takamura FREQUENCY METER / POWER FACTOR METER

## ไซเกิ้ลมิเตอร์ / เพาเวอร์แฟกเตอร์

### FREQUENCY METER

#### ไซเกิ้ล



Type	Code	Dimension	Specification	Price
Analog แบบเข็ม	AM-96Hz-45□Hz	96 x 96 mm	45-55Hz, 45-65Hz 220V / 380V	600.-
Digital แบบดิจิตอล	DM-96Hz		45-65Hz 220V / 380V	600.-

### POWER FACTOR METER

#### เพาเวอร์แฟกเตอร์



Type	Code	Dimension	Specification	Price
Analog แบบเข็ม	AM-96COS 3P3W 5A	96 x 96 mm	380V 5A (0-9999A/)	1,200.-
Digital แบบดิจิตอล	DM-96COS		0-500V 5A (0-9999A/)	1,850.-

TEND

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UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

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SYLVIA

WANG

MACCON

# Takamura MULTIFUNCTION METER

## มัลติมิเตอร์

### MULTIFUNCTION METER

### มัลติมิเตอร์



Type	Code	Dimension	Specification	Price
ดิจิตอลวัตมิเตอร์	DM-96W	96 x 96 mm		1,850.-
ดิจิตอล V A F	DM-96VAF		0-600V 5A (0-9999A/) 45-55Hz	1,700.-
ดิจิตอล V A (3 เฟส)	DM-96VA		0-600V 5A (0-9999A/) 3 เฟส	2,800.-
ดิจิตอล V A F Hz	PM-96LED		0-600V 5A (0-9999A/) 45-65Hz	3,200.-

### MULTIFUNCTION METER

### มัลติมิเตอร์ หน้าปัด LCD



Type	Code	Dimension	Specification	Price
V A Hz (LCD)	PM-96LCD	96 x 96 mm	0-600V 5A (0-9999A/) 45-55Hz	3,700.-

\*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

# Takamura INSULATORS

## อินซูลเตอร์

TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

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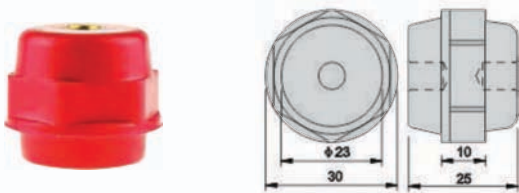
### ■ SPECIFICATION

Item	SM25	SM30	SM35	SM40	SM51	SM76
Tensile strength (LBS)	500	550	600	650	1000	1500
Voltage withstand (KV)	6	8	10	12	15	25
Torgue strength (FT LBS)	6	8	10	12	20	40
Screw (mm)	6	8	8	8	8	10
Screw depth (mm)	9	11	11	11	14	20
Packing (pcs./box)	10	10	10	10	10	10

### ■ DIMENTION

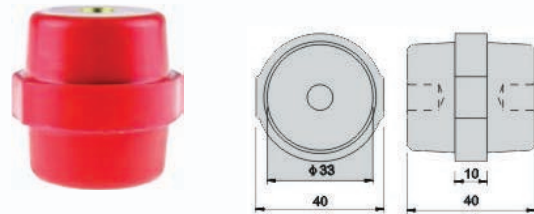
SM25

20.-



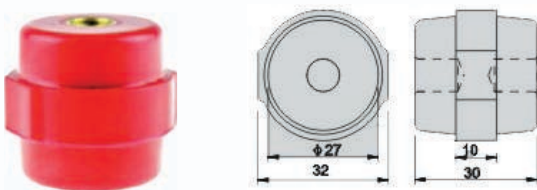
SM40

33.-



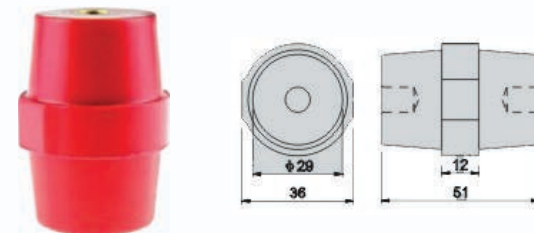
SM30

20.-



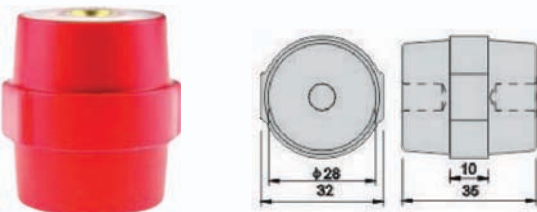
SM51

44.-



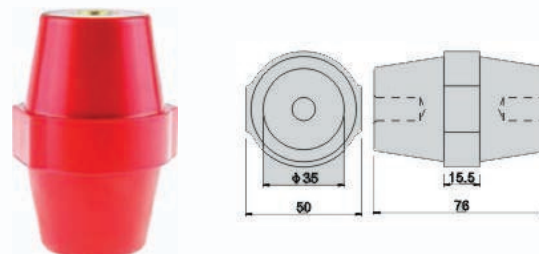
SM35

22.-



SM76

70.-



### DIMENSION

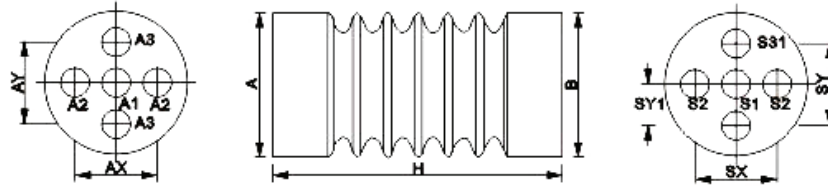
Dimension	
Material	Bluk molding compound, unsaturated polyester
Nut inserts	Brass, various specification are available
Test specifications	JIS C3801 and JIS C3851
Color	Dark red
Dimension and characteristics	Shown below







### SPECIFICATION

Item	EL-3M	EL-6M	EL-12	EL-15	EL-24	EL-30N		
End diameters (A/B) mm.	70	70	58	70	70	100		
Height / (H) mm.	60	90	130	142	210	310		
Surface leakage distance mm.	88	125	172	210	356	630		
Rated voltage. kV	3.6	7.2	12	15	24	36		
Low frequency dielectric strenght kV	16	22	36	50	60	75		
Impule voltage resistance	60	75	95	110	125	200		
Persistent bending strength, 1 min, kg	400	400	300	400	300	500		
Tensile strength, kg.	>1,200	>1,200	>2,000	>1,500	>1,500	>3,000		
Torgue strength, kg-m	>25	>25	>25	>25	>25	>25		
Inseris arrangement	Top	A1	M10	M10	M10	M8/M10	M10/M12	M16
		A2	M8	M8	M8	-	-	M8
		A3	-	-	-	M6/M8	M6/M8	-
		AX	40	40	36	-	-	40
		AY	-	-	-	36/40	36/40	-
	Bottom	S1	M10	M10	M10/M16	M10/M12/M16	M10/M12/M16	M16
		S2	-	-	-	-	-	-
		S3	-	-	-	-	-	M4
		S31	-	-	-	-	-	-
		SY	-	-	-	-	-	-
SY1	-	-	-	-	-	30		
Packing (pcs/Box)	3	2	1	1	1	1		



### ■ DIMENTION



<p><b>EL-3M</b></p> 	<p><b>570.-</b></p>	<p><b>EL-15</b></p> 	<p><b>1,050.-</b></p>
<p><b>EL-6M</b></p> 	<p><b>700.-</b></p>	<p><b>EL-24</b></p> 	<p><b>1,400.-</b></p>
<p><b>EL-12</b></p> 	<p><b>1,200.-</b></p>	<p><b>EL-30N</b></p> 	<p><b>8,500.-</b></p>

- TEND
- BANDEX
- TAKAMURA
- TEEFLEX
- KENION
- NISSEI
- ROSI
- APEKS
- LKEW
- TAC
- MARLOW
- HARU
- WIND SPEED
- COMMAX
- ADVANTE
- UNIVERSAL ADAPTER
- ALION
- EXOWELD
- CONTROL MAX
- JKN
- SYLVIA
- WANG
- MACCON



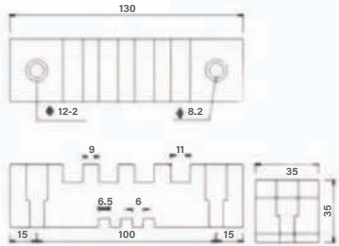
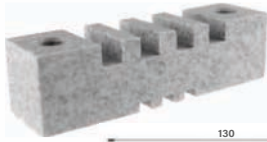
# Takamura BUS-BAR SUPPORTS

## บัสบาร์ซัพพอร์ต

### ■ DIMENSION

EL-130

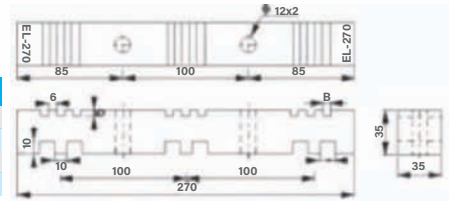
170.-



No.	Size	A	D
1	11		
2	10		
3	7	6.5	
4	6		
5	5		

EL-270

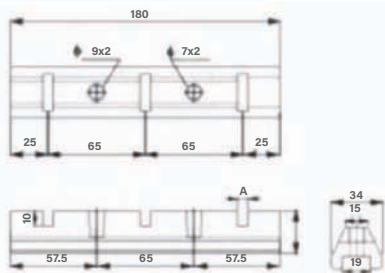
280.-



No.	Size	A	D
1	12	7	
2	12	0	
3	11	6	
4	10	5	

EL-180

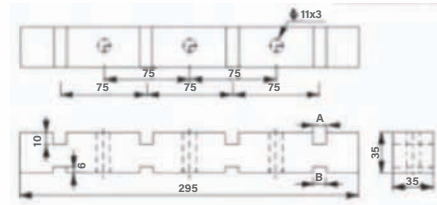
110.-



No.	Size	A
1	7	
2	11	

EL-295

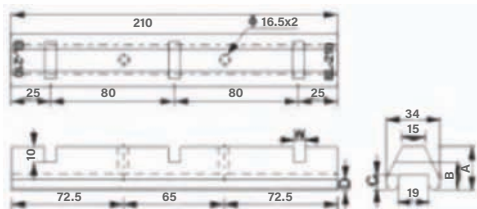
360.-



No.	Size	A	B
1	11	-	
2	22	-	
3	5	-	
4	6.3	-	
5	11	6.3	

EL-210

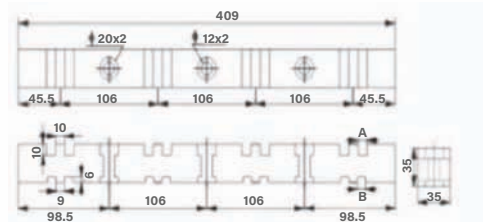
120.-



No.	Size	A	B	C	D	W
2	28	18	10	7	7.5	
3	28	18	10	7	11.5	
4	28	18	10	7	10	
12	31	21	13	10	7.5	
13	31	21	13	10	11.5	
14	31	21	13	10	10	

EL-409

480.-



No.	Size	A	B
1	11	0	
2	11	6.3	
3	15	0	
4	10	0	

TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND  
SPEED

COMMAX

ADVANTE

UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

# Takamura STAINLESS CABLE TIE

## เคเบิลไทร์สแตนเลส



■ **MATERIAL:** 316 STAINLESS STEEL

■ **TEMPERATURE:** -80 °C TO 500 °C

■ **DIMENSION**

Code	Thickness	Length (L)	Width (W)	Max.Bundle diameter	Min loop tensile kg / lbs	Packing	Price
						Pcs / Bag	
4.6 x 100	0.25	100	4.6	25	46 / 100	50	5.00.-
4.6 x 150		150		37		50	5.25.-
4.6 x 200		200		50		50	6.75.-
4.6 x 300		300		76		50	9.00.-
4.6 x 400		400		102		50	10.50.-
4.6 x 500		500		128		25	12.00.-
4.6 x 600		600		154		25	13.50.-
4.6 x 700		700		180		25	17.25.-
4.6 x 850		850		196		25	21.00.-
7.9 x 200		7.9		200		7.9	50
7.9 x 300	300		76	50	15.00.-		
7.9 x 400	400		102	50	17.25.-		
7.9 x 500	500		128	25	22.50.-		
7.9 x 600	600		154	25	25.00.-		
7.9 x 700	700		180	25	30.00.-		
7.9 x 850	850		196	25	37.50.-		
7.9 x 1050	1050		206	25	45.00.-		

\*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

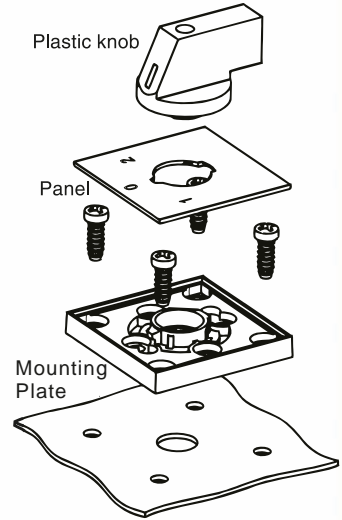
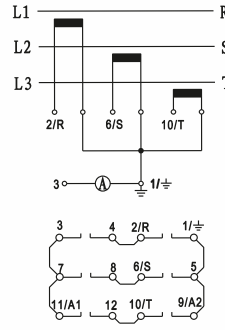
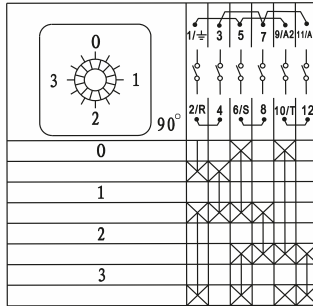
# Takamura CAM SWITCH

## แอมมิเตอร์

### แอมมิเตอร์แอมมิเตอร์ (AMMETER CAM SWITCH)



Transform picture

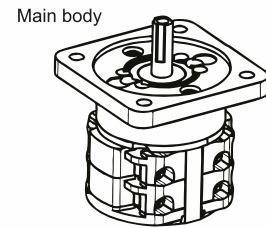
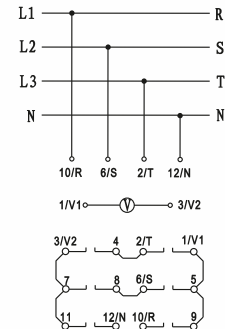
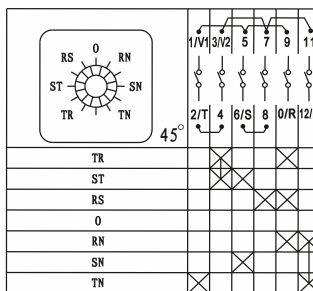


Type	Panel Size	Current @AC-21A/B	Angle	Panel Marking	Color			Price
					Knob	Plate	Body	
ACS-20	48x60 mm	20A	90	0-1-2-3	Red	Yellow	Red	420.-
	64x80 mm							

### โวลต์มิเตอร์แอมมิเตอร์ (VOLTMETER CAM SWITCH)



Transform picture



Type	Panel Size	Current @AC-21A/B	Angle	Panel Marking	Color			Price
					Knob	Plate	Body	
VCS-20	48x60 mm	20A	45	TR-ST-RS-O-RN-SN-TN	Red	Yellow	Red	420.-
	64x80 mm							

#### Ratings : IEC 60947

Utilization category	Rated operational current and voltage	
AC-3	11A	220-240V AC/3kW
	11A	380-440V AC/5.5kW
AC-23A	15A	220-240V AC/3.7kW
	15A	380-440V AC/7.5kW
AC-21A	20A	220-240V AC
	20A	380-440V AC
AC-15	5A	220-240V AC
	4A	380-440V AC

Conventional thermal current (Ith)	20 A
Rated insulation voltage (Ui)	690 V
Rated impulse withstand voltage (Uimp)	2.5 KV
Overvoltage category	II
Rated duty	Uninterrupted duty
Pollution degree	3
Rated frequency (Hz)	50Hz
Rated short-time withstand current 1cw	180, 1S
Rated short-time making capacity 1cm	254 A
Tightening torque, main circuit (Nm)	0,5 Nm (M3x7-6,8x7)
Degree of protection	IP20 (after installation)
Type of termination	Screw terminals
Ambient temperature	-5°C...+40°C

# Takamura PHOTO ELECTRIC CONTROL

## สวิทซ์แสงแดด

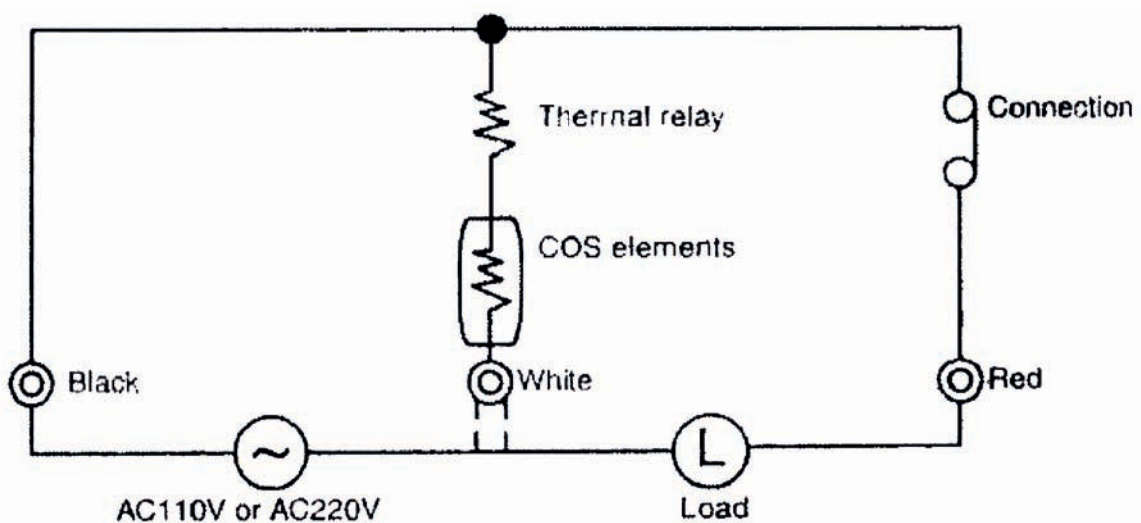
### AUTO LIGHTER

1. Standard lighting : 31.5 - 125 Lux  
(Under conditions at rated voltage and surroundings temperature 20 C)
2. Standard unlighting : Below 5 times of lighting  
(Under conditions at rated voltage and surroundings temperature 20 C)
3. Suitable surroundings temperature range : -10 C ~ +40 C
4. Service life time : more than 2,000 times  
(operational condition : rated voltage and surroundings temperature 20 C)
5. Rated frequency : for both 50 Hz / 60 Hz



Item	แบบหนีคอกวน		แบบหลอด		10 A
	3 AP	6 AP	3 AB	6 AB	
Rated voltage (V)	220				
Rated current (A)	3	6	3	6	10
Frequency	50, 60 Hz				
Intensity for ON	31.5 Lux				
Intensity for OFF	125 Lux				
Price	220.-	250.-	220.-	250.-	335.-

### DIMENTION



# Takamura FIBER GLASS FISH TAPE

## ฟิชเทปไฟเบอร์กลาส



### ■ HOW FISH TAPE WORKS?

- 1. Push the fish tape through the cable conduit.
- 2. Tape the cables onto the fish tape.
- 3. Pull the fish tape through the conduit.
- 4. Do it slowly to ensure the cables stay attached.

### ■ FIBERGLASS FISH TAPE WITH NYLON COATED IN WINDER CASE

- Fiberglass with nylon coated is specially designed fish tape for safe installation. Featuring a non-conductive fiberglass core with an outer nylon coating reduces jamming, friction and abrasion, which is perfect for using in the office environments.

### ■ APPLICATION

- For installation of telecommunications, data communication, and electric cables through walls, above suspended ceilings, and under floors. Fish tape has been designed to put the cables pass through the inside of the conduit.

### ■ WARNING

- Fish tape is designed to pull thought guide string only. Using it to directly pull the target wire can damage the fish tape.
- Tensile strength decreases with increasing time and temperature DO NOT use any fish tape near or on live circuits. Use extreme caution when working near any electrical equipment. Wear approved eye protection when feeding, pulling, or rewinding fish tape.

Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
FF-15	3.8 mm	15 mm	100 kg	120 kg	870.-
FF-30	3.8 mm	30 mm	100 kg	120 kg	1,300.-
FF-45	3.8 mm	45 mm	100 kg	120 kg	1,520.-
FF-60	3.8 mm	60 mm	100 kg	120 kg	1,740.-

- Non-conductive and anti-corrosive fiberglass tape designed for use around live circuits with low friction coating for faster and easier fishing.
- High tensile strength provides excellent performance.
- Special design for longer life and greater pushing power.
- Smooth nylon jacket provides great handling around bends.
- Perfect for fishing in conduit with wire or cable present.
- Advanced non-slip handle and fingertip grooves provide secure grip for added handling comfort and reduced fatigue.
- Excutive, unique, lightweight reel for winding and rewinding easier which also increases the stability for better winding control.
- Impact-resistant plastic case and durable handle withstands rugged job site conditions.

# Takamura FLAT STEEL FISH TAPE

## ฟิชเทปเหล็ก



### ■ FLAT STEEL FISH TAPE IN WINDERCASE

- Flat steel is the industry standard for strength and durability, it offers rust resistance and improved toughness. A flexible, non-curling design makes it easy to handle and reduces labor.

Model	Width	Trickness	Length	Tensile strength		Price
				Safety load	Max. load	
SF-15	3.2 mm	1.6 mm	15 m	200 kg	220 kg	690.-
SF-30	3.2 mm	1.6 mm	30 m	200 kg	220 kg	1,030.-
SF-60	3.2 mm	1.6 mm	60 m	200 kg	220 kg	1,630.-

- High flexibility by special heat treatment, excellent for multiple bends. For wide range use especially in narrow environment.
- Durable flash steel tape resist kinking, breaking and corrosion.
- High tensile strength provides excellent performance.
- High quality flat steel for longer lift and easier pulling.
- Advanced non-slip handle and fingertip grooves provide secure grip for added handling comfort and reduced fatigue.
- Excutive, unique, lightweight reel for widing and rewinding easier which also increases the stability for better winding control.
- Impact-resistant plastic case and durable handle withstands rugged job site conditions.



# Takamura NYLON FISH TAPE / POM FISH TAPE

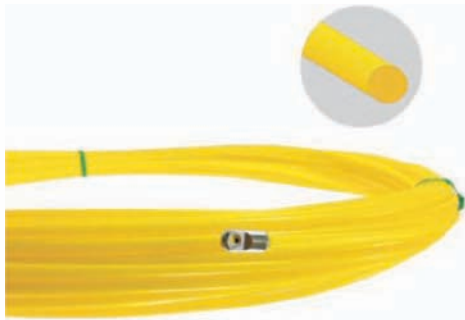
ฟิชเทปไนลอน / ฟิชเทป POM

## ■ NYLON Ø4MM (RED)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
N0415	4 mm	15 m	100 kg	120 kg	490.-
N0430	4 mm	30 m	100 kg	120 kg	920.-

## ■ POM Ø4.5MM (YELLOW)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
P4515	4.5 mm	15 m	80 kg	130 kg	490.-
P4530	4.5 mm	30 m	80 kg	130 kg	920.-
P4550	4.5 mm	50 m	80 kg	130 kg	1,470.-

## ■ POM WITH STEEL WIRE Ø5.5MM (WHITE)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
PS5515	5.5 mm	15 m	250 kg	400 kg	1,090.-
PS5530	5.5 mm	30 m	250 kg	400 kg	1,740.-
PS5550	5.5 mm	50 m	250 kg	400 kg	2,660.-

TEND

BANDEX

TAKAMURA

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COMMAX

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UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

# Takamura PET FISH TAPE

## ฟิชเทป PET

### PET SINGLE-TWISTED Ø4.0 MM (PINK)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
S0415	4 mm	15 m	200 kg	250 kg	920.-
S0430	4 mm	30 m	200 kg	250 kg	1,630.-
S0450	4 mm	50 m	200 kg	250 kg	2,500.-

### PET SINGLE-TWISTED Ø4.5 MM (ORANGE)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
S4515	4.5 mm	15 m	250 kg	300 kg	1,070.-
S4530	4.5 mm	30 m	250 kg	300 kg	1,820.-
S4550	4.5 mm	50 m	250 kg	300 kg	2,820.-

### PET SINGLE-TWISTED Ø5.2 MM (YELLOW)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
S5215	5.2 mm	15 m	350 kg	400 kg	1,250.-
S5230	5.2 mm	30 m	350 kg	400 kg	2,120.-
S5250	5.2 mm	50 m	350 kg	400 kg	3,310.-

### PET SINGLE-TWISTED Ø6.2 MM (GREEN)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
S6215	6.2 mm	15 m	500 kg	550 kg	1,410.-
S6230	6.2 mm	30 m	500 kg	550 kg	2,390.-
S6250	6.2 mm	50 m	500 kg	550 kg	3,740.-

# Takamura PET FISH TAPE

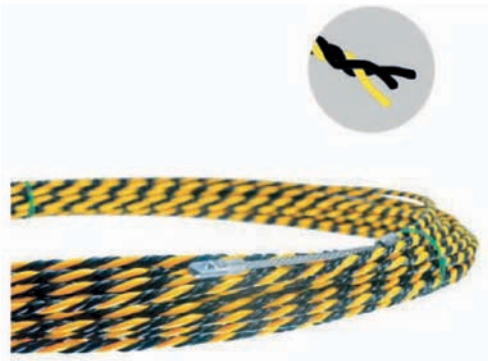
## ฟิชเทป PET

### ■ PET TRI-TWISTED Ø6 MM (BLACK/ORANGE)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
T0615	6 mm	15 m	400 kg	600 kg	1,250.-
T0630	6 mm	30 m	400 kg	600 kg	2,010.-
T0650	6 mm	50 m	400 kg	600 kg	3,040.-

### ■ PET TRI-TWISTED Ø7 MM (BLACK/YELLOW)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
T0715	7 mm	15 m	500 kg	700 kg	1,410.-
T0730	7 mm	30 m	500 kg	700 kg	2,280.-
T0750	7 mm	50 m	500 kg	700 kg	3,470.-

### ■ PET TRI-TWISTED WITH STEEL CORE Ø7 MM (RED/YELLOW)



Model	Diameter	Length	Tensile strength		Price
			Safety load	Max. load	
TS0715	7 mm	15 m	600 kg	750 kg	1,570.-
TS0730	7 mm	30 m	600 kg	750 kg	2,680.-
TS0750	7 mm	50 m	600 kg	750 kg	4,210.-