

For 3P4W		
KEY PRESS	ONLINE PAGE DESCRIPTION	DISPLAY
Press “PF”	The first screen : Displays units of R phase power factor for a second, then display value.	PF1
	The second screen : Displays unit of Y phase power factor for a second, then display value.	PF2
	The third screen : Displays unit of B phase power factor for a second, then display value.	PF3
	The fourth screen : Displays unit of average of all three phase power factor then display value.	PFAVG

For 3P4W																																																		
KEY PRESS	ONLINE PAGE DESCRIPTION	DISPLAY																																																
Press “P”	The first screen : Displays unit of active power of R phase for a second, then display value.	Y1																																																
	The second screen : Displays unit of active power of Y phase for a second, then display value.	Y2																																																
	The third screen : Displays unit of active power of B phase for a second, then display value.	Y3																																																
	The fourth screen : Displays unit of total active power for a second, then display value.	Yt																																																
	The fifth screen : Displays unit of active energy of R phase for a second, then display value.	YH1																																																
	The sixth screen : Displays unit of active energy of Y phase for a second, then display value.	YH2																																																
	The seventh screen : Displays unit of active energy of B phase for a second, then display value.	YH3																																																
	The eighth screen : Displays unit of total active energy of MAINS source for a second, then display value.	Y. YHt																																																
	The ninth screen : Displays unit of total active energy of DG source for a second, then display value. DG symbol ON	YHt																																																
	The tenth screen : Displays unit of total active energy of MAINS + DG source for a second, then display value. DG symbol ON.	Y. YHt																																																
k l q b <table><tr><td>ka</td><td>2a</td><td>S³</td><td>ia</td><td>3</td><td>ca</td><td>2a</td><td>®</td></tr><tr><td>PE=P t</td><td>Q³SH³SH³V³S³CNM³S</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>NE=O t Jo</td><td>N³I³H³SH³V³S³CNM³S</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>NE=O t Jv</td><td>O³EH³SH³V³S³CNM³S</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>NE=O t j</td><td>P³EH³SH³V³S³CNM³S</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>a d</td><td>N³I³O³EH³P³EH³I³Q³SH³SH³V³S³CNM³S</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>			ka	2a	S ³	ia	3	ca	2a	®	PE=P t	Q ³ SH ³ SH ³ V ³ S ³ CNM ³ S							NE=O t Jo	N ³ I ³ H ³ SH ³ V ³ S ³ CNM ³ S							NE=O t Jv	O ³ EH ³ SH ³ V ³ S ³ CNM ³ S							NE=O t j	P ³ EH ³ SH ³ V ³ S ³ CNM ³ S							a d	N ³ I ³ O ³ EH ³ P ³ EH ³ I ³ Q ³ SH ³ SH ³ V ³ S ³ CNM ³ S						
ka	2a	S ³	ia	3	ca	2a	®																																											
PE=P t	Q ³ SH ³ SH ³ V ³ S ³ CNM ³ S																																																	
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a d	N ³ I ³ O ³ EH ³ P ³ EH ³ I ³ Q ³ SH ³ SH ³ V ³ S ³ CNM ³ S																																																	
Press “Q”	The first screen : Displays unit of reactive power of R phase for a second, then display value.	YAR1																																																
	The second screen : Displays unit of reactive power of Y phase for a second, then display value.	YAR2																																																
	The third screen : Displays unit of reactive power of B phase for a second, then display value.	YAR3																																																
	The fourth screen : Displays unit of total reactive power for a second, then display value.	YARt																																																
	The fifth screen : Displays unit of reactive energy of R phase for a second, then display value.	YARH1																																																
	The sixth screen : Displays unit of reactive energy of Y phase for a second, then display value.	YARH2																																																

Press "Q"	The seventh screen : Displays unit of reactive energy of B phase for a second, then display value.	UAFH3
	The eighth screen : Displays unit of total reactive energy of MAINS source for a second, then display value.	UAFHE
	The ninth screen : Displays unit of total reactive energy of DG source for a second, then display value. DG symbol ON	UAFHE
	The tenth screen : Displays unit of total reactive energy of MAINS + DG source for a second, then display value. DG symbol ON.	UAFHE

For 3P4W														
KEY PRESS	ONLINE PAGE DESCRIPTION	DISPLAY												
Press “S”	The first screen : Displays unit of Apparent power of R phase for a second, then display value.	U A 1												
	The second screen : Displays unit of Apparent power of Y phase for a second, then display value.	U A 2												
	The third screen : Displays unit of Apparent power of B phase for a second, then display value.	U A 3												
	The fourth screen : Displays unit of total Apparent power for a second, then display value.	U A t												
	The fifth screen : Displays unit of Apparent energy of R phase for a second, then display value.	U A H 1												
	The sixth screen : Displays unit of Apparent energy of Y phase for a second, then display value.	U A H 2												
	The seventh screen : Displays unit of Apparent energy of B phase for a second, then display value.	U A H 3												
	The eighth screen : Displays unit of total Apparent energy of MAINS source for a second, then display value.	A U A H t												
	The ninth screen : Displays unit of total Apparent energy of DG source for a second, then display value. DG symbol ON	U A H t												
	The tenth screen : Displays unit of total Apparent energy of MAINS + DG source for a second, then display value. DG symbol ON.	A U A H t												
k l q b														
<table><tr><td>k a · z a</td><td>S 3 i a c 2 a a</td></tr><tr><td>PE=P t</td><td>Q'SI-U' SI-V S-CNM'S</td></tr><tr><td>NE=O t j</td><td>N3'I-U' SI-V S-CNM'S</td></tr><tr><td>NE=O t j v</td><td>O@EI-U' SI-V S-CNM'S</td></tr><tr><td>NE=O t j _</td><td>P2EI-U' SI-V S-CNM'S</td></tr><tr><td>a d</td><td>N3'I-O@EI-P2EI-Q'SI-U' SI-V S-CNM'S</td></tr></table>			k a · z a	S 3 i a c 2 a a	PE=P t	Q'SI-U' SI-V S-CNM'S	NE=O t j	N3'I-U' SI-V S-CNM'S	NE=O t j v	O@EI-U' SI-V S-CNM'S	NE=O t j _	P2EI-U' SI-V S-CNM'S	a d	N3'I-O@EI-P2EI-Q'SI-U' SI-V S-CNM'S
k a · z a	S 3 i a c 2 a a													
PE=P t	Q'SI-U' SI-V S-CNM'S													
NE=O t j	N3'I-U' SI-V S-CNM'S													
NE=O t j v	O@EI-U' SI-V S-CNM'S													
NE=O t j _	P2EI-U' SI-V S-CNM'S													
a d	N3'I-O@EI-P2EI-Q'SI-U' SI-V S-CNM'S													

[illegible][illegible][illegible]

Config. page	Function	Range or Selection	Factory Setting	
	Password	0000 to 9998	1000	PASWrd
1	Change Password	No / Yes	No	CHGPRYd
1.1	New Password	0000 to 9998		NEYPYd
2	Network Selection	3P4W, 3P3W, 1P2W-R, 1P2W-Y and 1P2W-B	3P4W	NY SEL
3	CT Secondary	1A or 5A	5	CT SEC
4	CT Primary	1A, 5A to 10,000A	5	CT PRI
5	PT Secondary	100V to 500V	350	PT SEC
6	PT primary	100V to 500kV	350	PT PRI
7	^µ~²³`µ~®	^µ~¼½`µ~®	^µ~	AUTRES
8	b,´®£²³`µ~®	l k½:l cc	l k	E³RES
9	Slave IdG	1 to 255	1	SLVId
10	Baud RateG	300, 600, 1200, 2400, 4800, 9600 and 19200 (bps)	9600	bdRtEG
11	ParityG	None, Odd, Even	None	PARITY
12	Stop BitG	1 or 2	1	StPBIt
13	Factory default	Yes / No	No	DEFAULT
NQ	Reset energy	Yes / No	No	rStENg
NQIN	Password	0001 to 9999	1001	PASWrd
NQIO	Source SelectionG	Source1(Mains) / Source2 (Generator)	Source 1 (Mains)	SOURCE
NQIP	Reset active energy	Yes / No	No	YH
NQIQ	Reset reactive energyG	Yes / No	No	YARH

EG=Z= | ®^k1=√²=b j PMSJ`JaF

[illegible]

CONFIGURATION

Note : Setting should be done by professional after going through this user manual and having understood the application situation.

```
C Z-2 S-a C-E @F ;! u2--@c=3 a''@; :-E a||
```

- r 3 p-3 H-H a-a 1-f 2-p-3 a c-z :-a@ a-z:-@ E-a ,z F- configuration menu.
- Use ⬅ key to shift the cursor for next digit and to edit.
Use ▲ key to increment the configuration value.
Use ▼ key to decrement the configuration.
- Use ✓ key for save parameter value & go to the next page

NQXR	Reset apparent energyG	Yes / No	No	UAX
------	------------------------	----------	----	-----

NOTE : For resetting energy parameters user will be prompted the password. If correct password is entered, the user will be able to reset all energy parameters. This password will be a value which will be greater than the configuration password by 1.

Eg:Z= I @x1~2=b j PMSJ`JaF

MODBUS REGISTER ADDRESSES LISTE I @x1~2=b j PMSJ`JaF

Readable Parameters : [Length (Register) : 2 ; Data Structure : Float]					
Address	Hex Address	Parameter	Address	Hex Address	Parameter
30024	0x18	kW1	PMNOQ	M,Tb	a s^2SP=Ef~ °F
30026	0x1A	kW2	PMNOS	M,UM	a s^2SP=Ef~ °FG
30028	0x1C	kW3	PMNOU	M,UO	a s^2SN=Eb, °F
30030	0x1E	kVA1	PMNPM	M,UQ	a¶N=Eb, °FG
30032	0x20	kVA2	PMNPO	M,US	a s^2SO=Eb, °F
30034	0x22	kVA3	PMNPQ	M,UU	a s^2SQ=Eb, °FG
30036	0x24	kVAr1	PMNPS	M,U^	a s^2SP=Eb, °F
30038	0x26	kVAr2	PMNPU	M,U`	a s^2SP=Eb, °FG
30040	0x28	kVAr3	PMNQM	M,Ub	q~c^a s^2S=Ef~ °F
30042	0x2A	Total kW	PMNQO	M,VM	q~c^a s^2S=Ef~ °FG
30044	0x2C	Total kVA	PMNQQ	M,VO	q~c^a s^2S=Eb, °F
30046	0x2E	Total kVAr	PMNQS	M,VQ	q~c^a s^2S=Eb, °FG
30048	0x30	PF1	PMNQU	M,VS	a s^SN
30050	0x32	PF2	PMNRM	M,VU	a s^SNG
30052	0x34	PF3	PMNRO	M,V^	a s^SQ
30054	0x36	Average PF	PMNRQ	M,V`	a s^SQG
PMMRU	M,P^	q~c^a t S	PMNRS	M,Vb	a s^SP
PMMSM	M,P`	q~c^a t SG	PMNRU	M,NNM	a s^SPG
PMMSO	M,Pb	q~c^a s^S	PMNSM	M,QS	q~c^a t S=a d
PMMSQ	M,QM	q~c^a s^SG	PMNSO	M,QS	q~c^a t S=a dG
PMMSS	M,QO	q~c^a s^2S	PMNSQ	M,QS	q~c^a s^S=a d
PMMSU	M,QQ	q~c^a s^2SG	PMNSS	M,QS	q~c^a s^S=a dG
PMMUQ	M,RQ	a t SN=Ef~ °F	PMNSU	M,QS	q~c^a s^2S=a d
PMMUS	M,RS	a t SN=Ef~ °FG	PMNTM	M,QS	q~c^a s^2S=a dG
PMMUU	M,RU	a t SO=Ef~ °F	PMNTO	M,QS	q~c^a t S=j~^3Ha d
PMMVM	M,R^	a t SO=Ef~ °FG	PMNTQ	M,QS	q~c^a t S=j~^3Ha dG
PMMVO	M,R`	a t SP=Ef~ °F	PMNTS	M,QS	q~c^a s^S=j~^3Ha d
PMMVQ	M,Rb	a t SP=Ef~ °FG	PMNTU	M,QS	q~c^a s^S=j~^3Ha dG
PMMVS	M,SM	a t SN=Eb, °F	PMNUM	M,QS	q~c^a s^2S=j~^3Ha d
PMMVU	M,SO	a t SN=Eb, °FG	PMNUO	M,QS	q~c^a s^2S=j~^3Ha dG
PMNMM	M,SQ	a t SO=Eb, °F	PMNUQ	M,QS	DG Sensing
PMNMO	M,SU	a t SO=Eb, °FG	PMSUQ	M,QS	Serial no. (Data Structure : Hex)
PMNMQ	M,S^	a t SP=Eb, °F	k~¶N=jGc~EE2o33~2o3~2~23=P:E~!~c~Y:o@o2!1~¶~¶o3k~c~2~S:o@o2!1~¶~¶~2o~o2~S:o@VVVVV~c~j~3oE~@~`q,mq2~¶~¶l:G~@G~o@~o~o~S:o~¶~¶~Y~j~¶~S~EE2o33~Y~3~~o:o@o2!1k b,~~o~o¶l:c~2~q~c^a t S:l~s~¶~¶~PMMRU~3=TSRQKPO=~~~~~@E~¶~¶~¶PMMSM~3=VUk~^G~¶~¶~¶~¶q~c^a ~~~~~a t S~3~VUTSRQKPOK S~¶~¶~S~¶~¶~ =PMMRM VU S~¶~¶~S~¶~¶~ =PMMRU TSRQKPO VUTSRQKPO ^G~¶~¶~¶~¶~@E~3~e~1		
PMNMS	M,S`	a t SP=Eb, °FG			
PMNMU	M,Sb	q~c^a t S=Ef~ °F			
PMNNM	M,TM	q~c^a t S=Ef~ °FG			
PMNNO	M,TO	q~c^a t S=Eb, °F			
PMNNQ	M,TQ	q~c^a t S=Eb, °FG			
PMNNS	M,TS	a s^2SN=Ef~ °F			
PMNNU	M,TU	a s^2SN=Ef~ °FG			
PMNOM	M,T^	a s^2SO=Ef~ °F			
PMNOO	M,T`	a s^2SO=Ef~ °FG			

AUTOMATIC / MANUAL MODE DESCRIPTION

Press✔ key for 5 seconds to toggle between Automatic and Manual mode.
Note : By default unit operates in automatic mode. In automatic mode online pages scroll automatically at the rate of 5 seconds per page. In automatic mode when any key is pressed, unit temporarily switches to manual mode and the appropriate page is displayed, also if any key is not pressed for 5 sec, unit resumes automatic mode.
K~¶N: I @x1~2=b j PMSJ`Ja

USER GUIDE

LED INDICATIONS

- **INT :** The INT LED provides optical output for calibration verification as well as visual indication of energy integration. The pulse rate is 1000 Pulses/kWh.

- bum¶bum=i ba~!¶o3~S:o@E~G~¶~2o¶o23~c~Yone or more CT connections or presence of negative power in any or all phases. In such cases meter may not indicate the correct energy consumption. The CT should be connected to the meter with correct polarities.

kbq t l oh~pb i b`qf l k~^k a~ t fofkd~fkm r q	
Network selection in configuration ~Ea	t~2@!~
PmQ t	PmQ t
PmP t	PmP t
NmO t~EmNmOlmPF	NmO t~EmNmOlmPF

Note : P1, P2 and P3 are Three Phase.

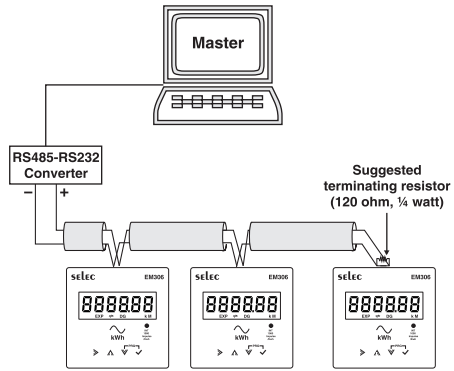
MODBUS REGISTER ADDRESSES LISTE I @x1~2=b j PMSJ`JaF

Readable / writable parameters : [Data Structure : Integer]					
Address	Hex Address	Parameter	Range		Length (Register)
40000	0x00	Password	Min value : 0	Max value : 9998	1
40001	0x01	N/W Selection	Value : 0	Meaning : 3P4W	1
			Value : 1	Meaning : 3P3W	1
			Value : 2	Meaning : 1P2W-R	1
			Value : 3	Meaning : 1P2W-Y	1
			Value : 4	Meaning : 1P2W-B	1
40002	0x02	CT Secondary	Min value : 1	Max value : 5	1
40003	0x03	CT primary (CT Secondary=5)	Min value : 5	Max value : 10000	1
		CT primary (CT Secondary=1)	Min value : 1	Max value : 10000	
40004	0x04	PT Secondary	Min value : 100	Max value : 500	1
40005	0x05	PT primary	Min value : 100	Max value : 500kV	2
QMMNS	M,NM	^¶~o o3~¶~@	S~¶o:¶M	j o~@@!~¶^¶	1
			S~¶o:¶N	j o~@@!~¶~¶μ@	1
QMMNT	M,NN	b,`o@EoE:o o3~¶~@	S~¶o:¶M	j o~@@!~¶ l c c	1
			S~¶o:¶N	j o~@@!~¶ l k	1
40007	0x07	Slave id	Min value : 1	Max value : 255	1
40008	0x08	Baud rate	Value : 0x0000	Meaning : 300	1
			Value : 0x0001	Meaning : 600	
			Value : 0x0002	Meaning : 1200	
			Value : 0x0003	Meaning : 2400	
			Value : 0x0004	Meaning : 4800	
			Value : 0x0005	Meaning : 9600	
			Value : 0x0006	Meaning : 19200	
40009	0x09	Parity	Value : 0x0000	Meaning : None	1
			Value : 0x0001	Meaning : Odd	
			Value : 0x0002	Meaning : Even	
40010	0x0A	Stop bit	Value : 0x0000	Meaning : 1	1
			Value : 0x0001	Meaning : 2	
40012	0x0C	Factory Default	Value : 1	Meaning : Set to factory setting range	1
40013	0x0D	Reset Active Energy	Value : 1	Meaning : Reset Total Active Energy	1
40014	0x0F	Reset Apparent Energy	Value : 1	Meaning : Reset Total Apparent Energy	1
40015	0x10	Reset Reactive Energy	Value : 1	Meaning : Reset Total Reactive Energy	1
40042	0x2A	Reset Active Energy DG	Value : 1	Meaning : Reset Total Active Energy of DG	1
40043	0x2B	Reset Apparent Energy DG	Value : 1	Meaning : Reset Total Reactive Energy of DG	1
40044	0x2C	Reset Reactive Energy DG	Value : 1	Meaning : Reset Total Apparent Energy of DG	1

Ea~G~k~~o¶: I m~f k p q~b j PMS~| I mNMovJsMQF=====Em~!oP~Y~QF

Ilkbb`qfIk:af^do^j:clo:~ljjrkf`^qfIk

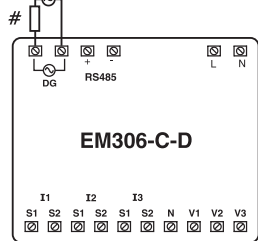
CONNECTION DIAGRAM FOR COMMUNICATION



Contact sales for PC based monitoring software to communicate with the meters.

k~mll: l @x^z~b j PMSJ`Ja

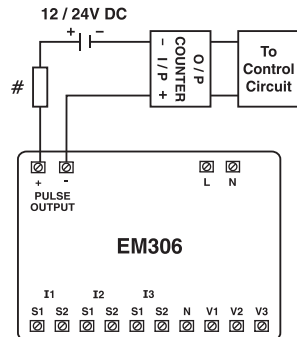
^mmif`^qfIk:l c:afdfq^i~fkmrq



k~mll: l @x^z~b j PMSJ`Ja

^mmif`^qfIk:l c:mripb~l r q m r q

ENERGY CONTROLLER



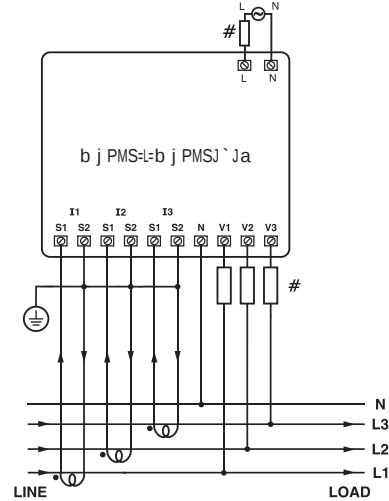
mμ3α=μ°μ'z~r~a~o~z~c~@~j~a~μ3αE~3~z~l~2~r~l~!α@α2~r~2~z~r~c~α@α2~l~1~c~@~2~α2~j~1~c~@~2~α~c~@~l~z~z~.~S~m2α3α~r~j~α~counter and control circuits (Contactors, Relay, Trip
~2~c~μ~FK
= qSα=c~μ~α2~3~l~r~EαE~.~S~S~α~r~r~.~μ~r~α~α2~l~1~c~@~3~μ~r~o~r~@~t~Sα@=c~μ~α2~α~c~Sα3~3~α~o~r~z~z~2~r~Eα3~μ~o~μ~z~c~@~2~c~c~2~μ~z~z~r~α~α~o~2~o~2~r~α~c~@~@~

All fuse types : 0.5A class CC UL type
0.5A fast acting 600V

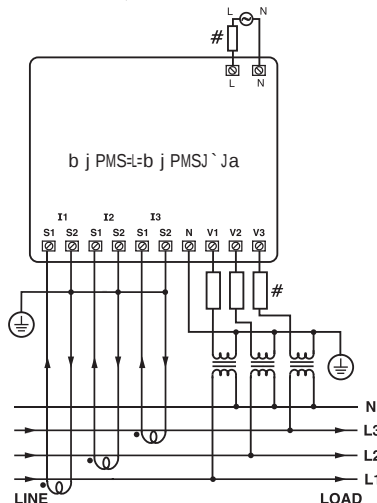
TYPICAL WIRING DIAGRAM

3 PHASE 4-WIRE (COMMONLY USED)

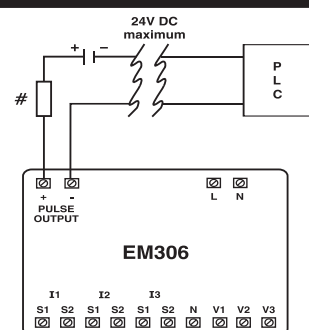
3 Ø - 4 WIRE, 3 CT'S



3 Ø - 4 WIRE, 3 CT'S and 3 PT'S



^mmif`^qfIk:l c:mripb~l r q m r q



mo l`bpp~fkqbd o^qfIk

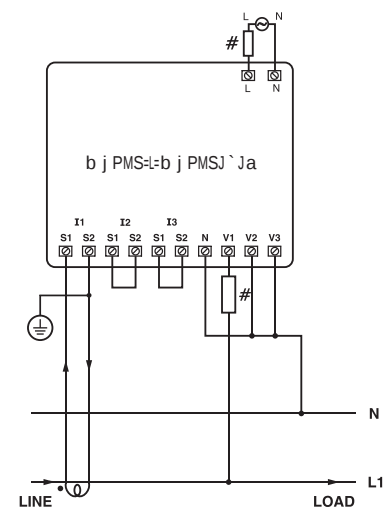
mμ3α=μ°μ'z~r~a~o~z~c~@~j~a~μ3αE~3~z~l~2~r~l~!α@α2~r~2~z~r~c~α@α2~l~1~c~@~2~α2~j~1~c~@~2~α~c~@~l~z~z~.~S~m2α3α~r~j~α~counter and control circuits (Contactors, Relay, Trip
~2~c~μ~FK
= qSα=c~μ~α2~3~l~r~EαE~.~S~S~α~r~r~.~μ~r~α~α2~l~1~c~@~3~μ~r~o~r~@~t~Sα@=c~μ~α2~α~c~Sα3~3~α~o~r~z~z~2~r~Eα3~μ~o~μ~z~c~@~2~c~c~2~μ~z~z~r~α~α~o~2~o~2~r~α~c~@~@~

mo l`bpp~fkqbd o^qfIk

mμ3α=μ°μ'z~r~a~o~z~c~@~j~a~μ3αE~3~z~l~2~r~l~!α@α2~r~2~z~r~c~α@α2~l~1~c~@~2~α2~j~1~c~@~2~α~c~@~l~z~z~.~S~m2α3α~r~j~α~counter and control circuits (Contactors, Relay, Trip
~2~c~μ~FK
= qSα=c~μ~α2~3~l~r~EαE~.~S~S~α~r~r~.~μ~r~α~α2~l~1~c~@~3~μ~r~o~r~@~t~Sα@=c~μ~α2~α~c~Sα3~3~α~o~r~z~z~2~r~Eα3~μ~o~μ~z~c~@~2~c~c~2~μ~z~z~r~α~α~o~2~o~2~r~α~c~@~@~

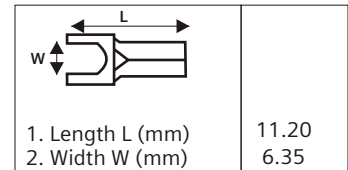
1 PHASE - 2 WIRE

1 Ø - 2 WIRE, 1 CT



@~^α~μ3α~1~o~α3~l~MKR^~c~l~3~z~z~r~j~z~1~o~α~MKR^~z~3~z~c~@~l~SMMs

i r d=abp`ofmqfIk



1. Length L (mm) 11.20
2. Width W (mm) 6.35

Ek l qb~l~z~j~α~.~2αE~.~S~i r d~@~l~F

p~o~c~f~c~r~z~z~α3~μ~j~α~c~z~c~S~@~l~α~z~c~α~E~α~l~α~r~α~α~z~z~c~@~μ~3~z~z~c~α3~α~

p~α~α~c~z~r~z~z~α3~z~m~l~k~i~E~K

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Ea~c~k~r~α~l~l~m~f~k~p~q~b~j~PMS~|~l~m~MOVJ~S~MQF~=====Em~l~α~Q~r~Q~F