

Adjustment instruction LSI, LSI, LSI-MM for 140G-K, 140G-M

Sganciatori  
Auslöser  
Dèclencheur  
Relé

**Installation - Installazione - Instalación**  
**Instalação - 取付け方法 - 安装**

**WARNING:** To prevent electrical shock, disconnect from power source before installing or servicing. Install in suitable enclosure. Keep free from contaminants. (Follow NFPA70E requirements).

**AVVERTENZA:** Per prevenire infortuni, togliere tensione prima dell'installazione o manutenzione. Installare in custodia idonea. Tenere lontano da contaminanti.

**WARNUNG:** Vor Installations- oder Servicearbeiten Stromversorgung zur Vermeidung von elektrischen Unfällen trennen. Die Geräte müssen in einem passenden Gehäuse eingebaut und gegen Verschmutzung geschützt werden.

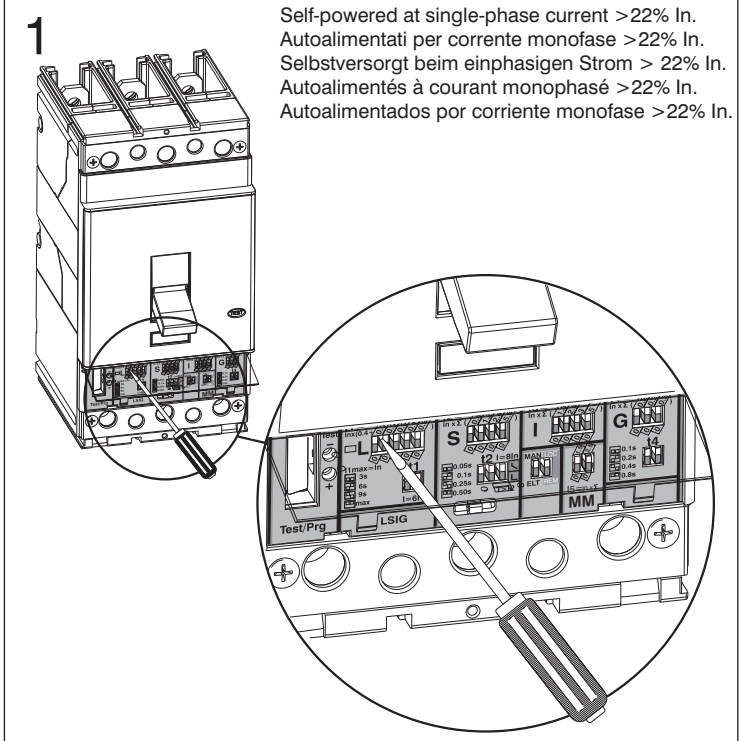
**AVERTISSEMENT:** Avant le montage et la mise en service, couper l'alimentation secteur pour éviter toute décharge. Prévoir une mise en coffret ou armoire appropriée. Protéger le produit contre les environnements agressifs.

**ADVERTENCIA:** Desconéctese de la corriente eléctrica, antes de la instalación o del servicio, a fin de impedir sacudidas eléctricas. Instálelo en una caja apropiada. Manténgalo libre de contaminantes.

**ATENÇÃO:** Para evitar choques, desconectar da corrente elétrica antes de fazer a instalação ou a manutenção. Instalar em caixa apropriada. Manter livre de contaminantes.

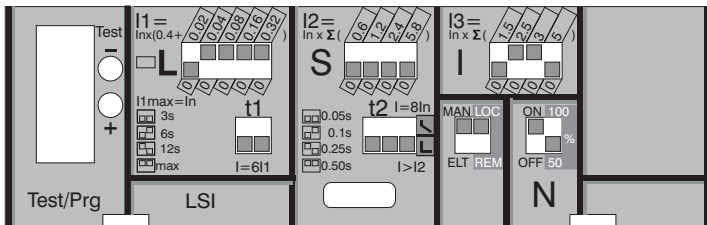
警告：感電事故防止のため、取付けまたは修理の際は電源から取り外してください。適切なケース内に取付けてください。また、汚染物質がないことを確認してください。

警告：为了防止触电，在安装或维修之前必须先切断电源。安装在合适的设备箱内。防止接触污染物。



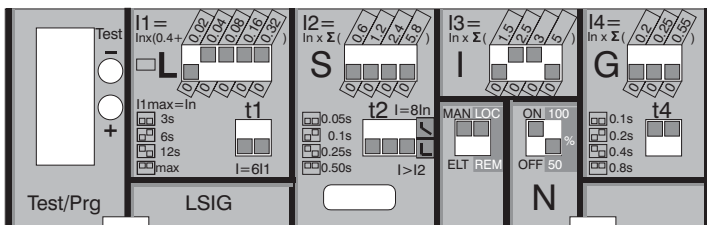
Self-powered at single-phase current >22% In.  
Autoalimentati per corrente monofase >22% In.  
Selbstversorgt beim einphasigen Strom > 22% In.  
Autoalimentés à courant monophasé >22% In.  
Autoalimentados por corriente monofase >22% In.

**2**



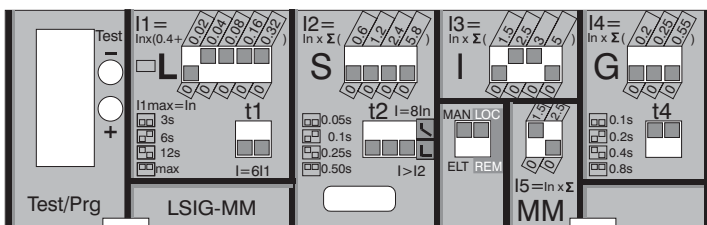
LSI

	L	S	I		N	ELT
See box	4	5	6		8	9



LSIG

	L	S	I	G	N	ELT
See box	4	5	6	7	8	9

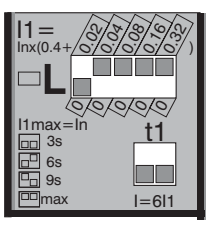


LSIG-MM

	L	S	I	G	N	MM	ELT
See box	4	5	6	7	8	9	10

Manual default setting  
 Settaggio di default manuale  
 Manuelle Default-Einstellung  
 Configuration par défaut manuelle  
 Ajuste de default manual  
 默认手动设置

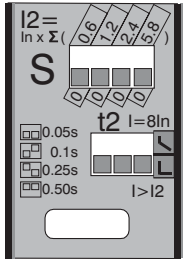
**L**



$I1 = I_n \times (0.4 + 0.02 + 0.04 + 0.08 + 0.16 + 0.32)$   
 $I1_{max} = I_n$   
 $t1$   
 3s  
 6s  
 9s  
 max  
 $I = 611$

$I1 = 1 I_n$   
 $t1 = 3s @ 6 I1$

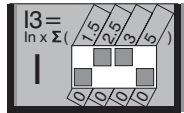
**S**



$I2 = I_n \times \Sigma (0.6, 1.2, 2.4, 4.8, 9.6)$   
 $t2 \quad I = 8 I_n$   
 0.05s  
 0.1s  
 0.25s  
 0.50s  
 $I > 12$

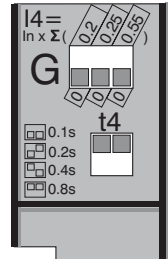
$I2 = 0$

**I**



$I3 = I_n \times \Sigma (1.5, 3, 6)$   
 $I3 = 5.5 I_n$

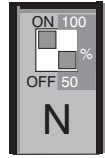
**G**



$I4 = I_n \times \Sigma (0.2, 0.35, 0.55)$   
 $t4$   
 0.1s  
 0.2s  
 0.4s  
 0.8s

$I4 = 0$

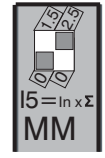
**N**



ON 100 %  
 OFF 50 %  
**N**

LSI, LSIG only  
 ON\*  
 N=50%

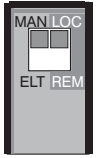
**MM**



$I5 = I_n \times \Sigma (1.5, 3)$   
**MM**

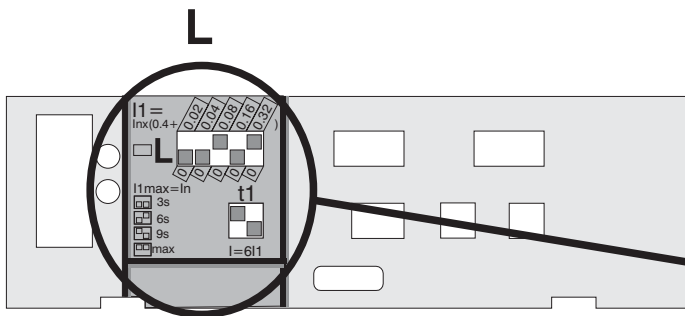
$I5 = 2.5 I_n$   
 (LSIG-MM only)

**ELT**



MAN LOC  
 ELT REM

Example -Esempio - Beispiel - Exemple - Ejemplo  
 $I_n = 300A$   
 $I1 = 300 \times (0.4 + 0.08 + 0.32) = 240A$   
 $t1 = 9s @ 1440A (61I)$



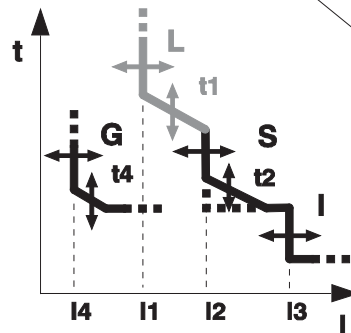
○	⊗	⊗	
Normal status	L Prealarm $\geq 90\% I1$	L Alarm $I_1 > I_2$ or $I_2 > I_3$ LSIG-MM	(1 Hz) (0.33 Hz) (4 Hz)

140G-M600-630

$I1 = I_n \times (0.4 + 0.02 + 0.04 + 0.08 + 0.16 + 0.32)$   
 $I1_{max} = I_n$   
 $t1$   
 3s  
 6s  
 12s  
 max  
 $I = 611$

140G-K  
 140G-M800

$I1 = I_n \times (0.4 + 0.02 + 0.04 + 0.08 + 0.16 + 0.32)$   
 $I1_{max} = I_n$   
 $t1$   
 3s  
 6s  
 9s  
 max  
 $I = 611$



	$I_n (A)$	$I1 (I_n)$							$t1$
		0.4	0.42	0.44	...	0.96	0.98	1	
140G-K	300	120	126	132	...	288	294	300	18
	400	160	168	176	...	384	392	400	18
140G-M	600	240	252	264	...	576	588	600	18
	800	320	336	352	...	768	784	800	18

\* IEC ONLY

UL only and LSI-LSIG only: "L" protection provides thermal memory according UL489 requirements

5

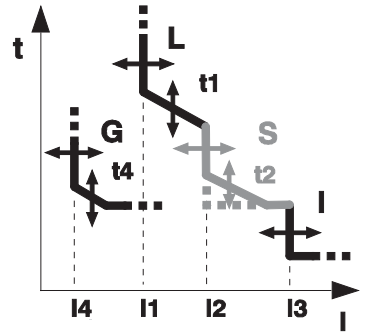
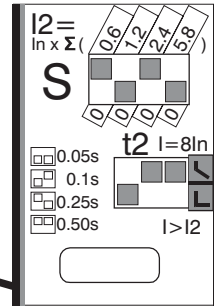
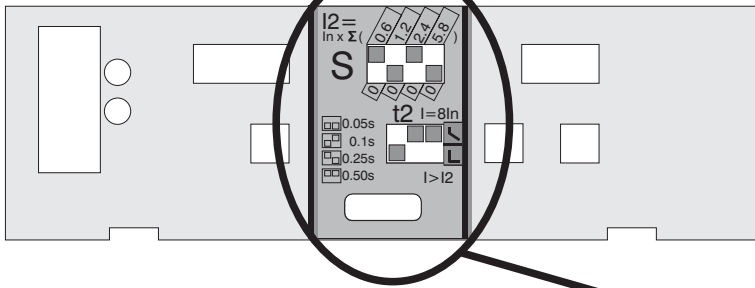
S

Example - Esempio - Beispiel - Exemple - Ejemplo

$I_n = 300A$

$I_2 = 300 \times (0.6 + 2.4) = 900A$

$t_2 (I^2t = ON) = 0.1s @ 2400A (8I_n)$



		$I_2(I_n)$														
$I_n (A)$		0.6	1.2	1.8	2.4	3	3.6	4.2	5.8	6.4	7	7.6	8.2	8.8	9.4	10
140G-K	300	180	360	540	720	900	1080	1260	1740	1920	2100	2280	2460	2640	2820	3000
	400	240	480	720	960	1200	1440	1680	2320	2560	2800	3040	3280	3520	3760	4000
140G-M	600	360	720	1080	1440	1800	2160	2520	3480	3840	4200	4560	4920	5280	5640	6000
	630**	378	756	1134	1512	1890	2268	2646	3654	4032	4410	4788	5166	5544	5922	6300
	800	480	960	1440	1920	2400	2880	3360	4640	5120	5600	6080	6560	7040	7520	8000

\*\* IEC ONLY

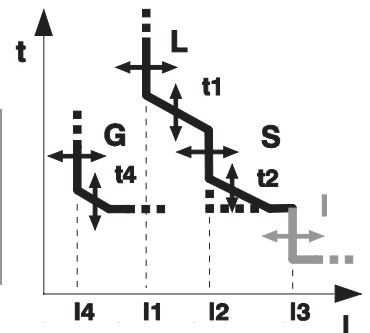
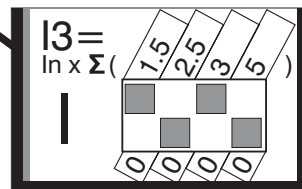
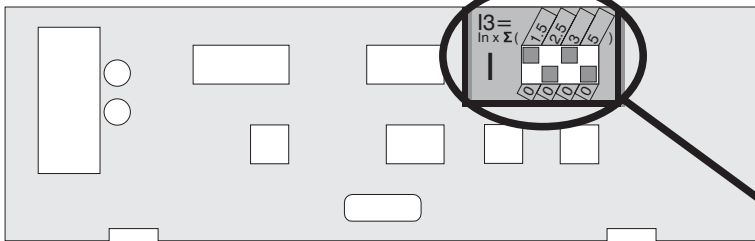
6

I

Example - Esempio - Beispiel - Exemple - Ejemplo

$I_n = 300A$

$I_3 = 300 \times (1.5 + 3) = 1350A$



		$I_3(I_n)$														
$I_n(A)$		1.5	2.5	3	4	4.5	5	5.5	6.5	7	7.5	8	9	9.5	10.5	12
140G-K	300	450	750	900	1200	1350	1500	1650	1950	2100	2250	2400	2700	2850	3150	3600
	400	600	1000	1200	1600	1800	2000	2200	2600	2800	3000	3200	3600	3800	4200	4800
140G-M	600	900	1500	1800	2400	2700	3000	3300	3900	4200	4500	4800	5400	5700	6300	7200
	630***	945	1575	1890	2520	2835	3150	3465	4095	4410	4725	5040	5670	5985	6615	7560
	800	1200	2000	2400	3200	3600	4000	4400	5200	5600	6000	6400	7200	7600	8400**	8400**

\*\*  $I_3 \text{ max} = 10.5 I_n$

\*\*\* IEC ONLY

# 7

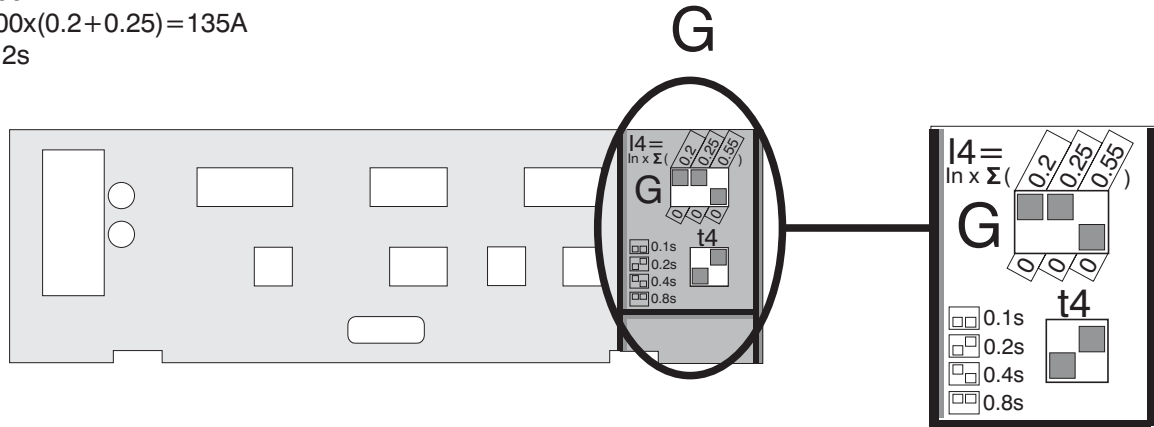
IF PRESENT

Example - Esempio - Beispiel - Exemple - Ejemplo

$$I_n = 300A$$

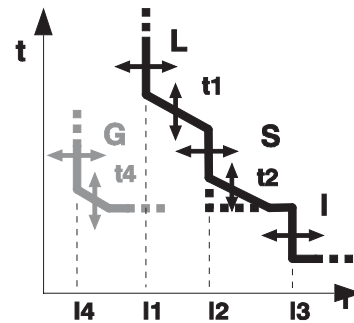
$$I_4 = 300 \times (0.2 + 0.25) = 135A$$

$$t_4 = 0.2s$$



		I4(I <sub>n</sub> )							
		I <sub>n</sub> (A)	0.2	0.25	0.45	0.55	0.75	0.8	1
140G-K	300	60	75	135	165	225	240	300	
	400	80	100	180	220	300	320	400	
140G-M	600	120	150	270	330	450	480	600	
	630*	126	158	283.5	346.5	472.5	504	630	
	800	160	200	360	440	600	640	800	

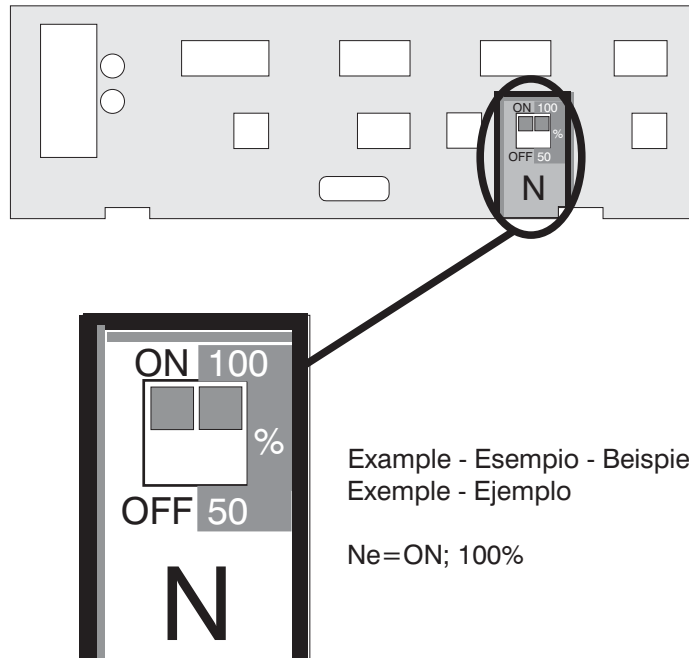
\* IEC ONLY



# 8

NEUTRAL SETTING

(LSIG, LSI Only)



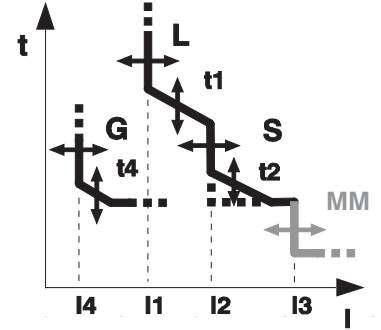
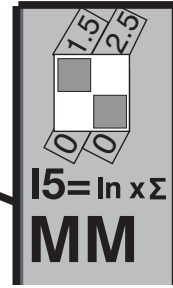
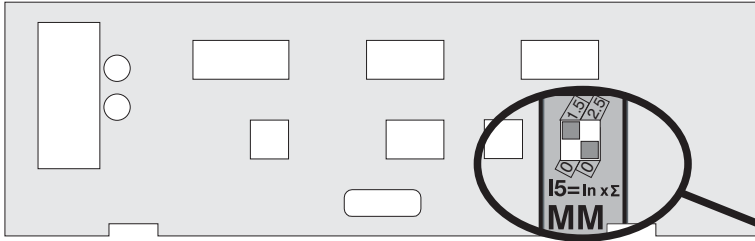
Example - Esempio - Beispiel  
Exemple - Ejemplo

Ne=ON; 100%

Note: Neutral setting is available for LSI, LSIG only. For LSIG-MM setting is fixed ON; 100%

9

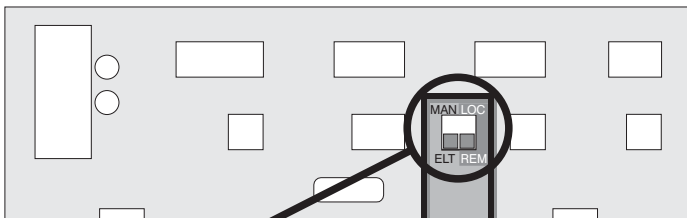
Example - Esempio - Beispiel - Exemple - Ejemplo  
 $I_n = 300A$   
 $I_3 = 300 \times (1.5 + 0) = 450A$



		I5(In)			
		In(A)	1.5	2.5	4
140G-K	300	450	750	1200	
	400	600	1000	1600	
140G-M	600	900	1500	2400	
	630	945	1575	2520	
	800	1200	2000	3200	

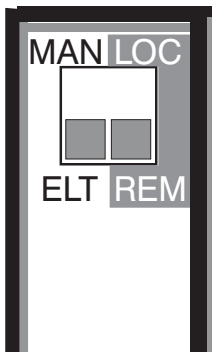
10

ELECTRONIC DEFAULT SETTING



L	I1	1 x In
	t1	MAX
S	I2	OFF
I	I3	4 x In
G	I4	OFF
MM	I5	2.5 In

Electronic default setting  
 Settaggio di default elettronico  
 elektronische Default Einstellung  
 Configuration par défaut électronique  
 Ajuste de default electrónico



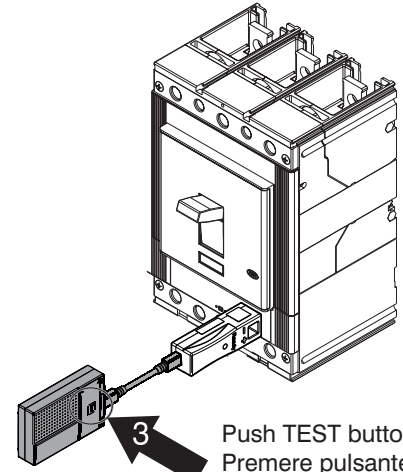
	MAN	ELT
REM	- Electronic parameters can be changed by System Bus	- Electronic parameters can be changed by System Bus
	- Manual parameters in use	- Electronic parameters in use
LOC	- Electronic parameters can't be changed by System Bus	- Electronic parameters can't be changed by System Bus
	- Manual parameters in use	- Electronic parameters in use

140G-ELTT  
(ORDERED SEPARATELY)



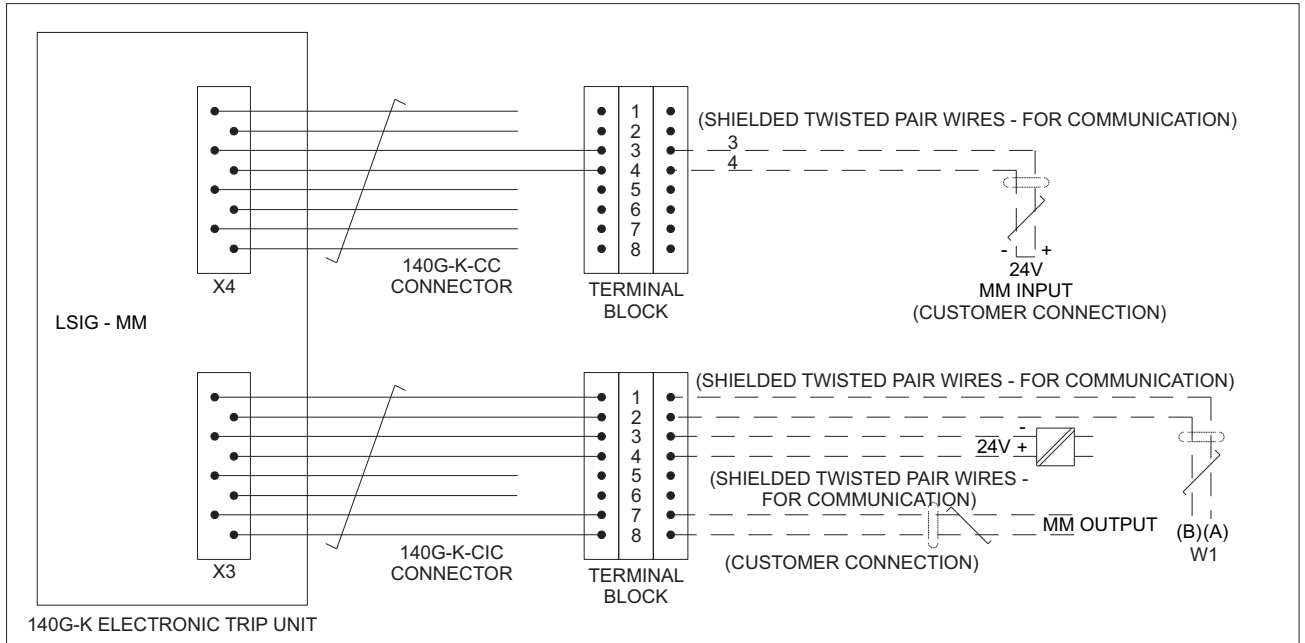
LED TRIP UNIT DEVICE	
- Green	- Red
- Verde	- Rosso
- Grün	- Rot
- Vert	- Rouge
- Verde	- Rojo
- Device ON	- Change battery
- Dispositivo acceso	- Sostituire batteria
- Einrichtung eingeschaltet	- Batterie ersetzen
- Dispositif allumé	- Remplacer batteries
- Dispositivo encendido	- Sustituir baterías

CLACK  
4



3  
Push TEST button  
Premere pulsante TEST  
Drücken Sie die Test-Taste  
Appuyer sur le bouton TEST  
Pulse el pulsador TEST

Charge - Carica - Ladung - Alimentation - Alimentación



Note: LSIG-MM requires use of terminal kits 140G-K-CC and 140G-K-CIC, ordered separately

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