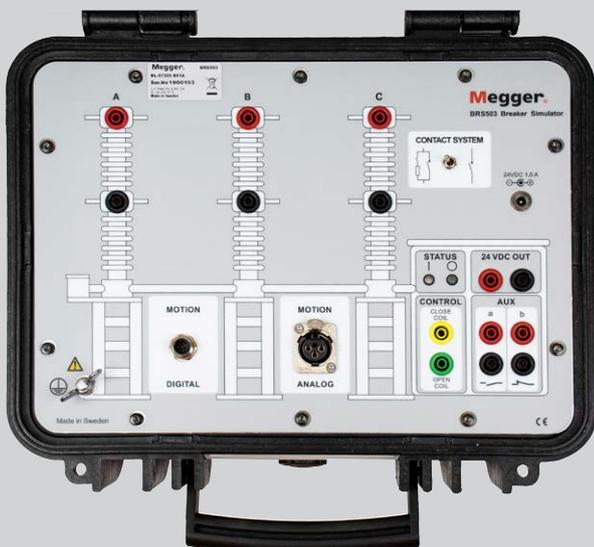


# Circuit breaker testing accessories

# Megger®



# Circuit breaker testing accessories

## Contents

Cables	3
DCM – DualGround	9
Software	10
Application kits	11
Static and dynamic resistance measurement	13
Transducers	15
Linear	15
Rotary	16
Transducer mounting kits	17
Universal kits	17
Circuit breaker specific kits	18
Ready-to-use kits – Rotary	20
Transducer mounting accessories	21
Other	23
<b>Connecting and mounting guidance</b>	<b>26</b>
SDRM Hook-up examples and cable designations	26
DualGround - safe testing	27
<b>Conventional vs. DualGround</b>	<b>27</b>
Transducer mounting examples	28
First trip measurement	29

# Cables

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Cables</b>						
<i>Analogue Input XLR/Banana</i>						
	XLR female / 4 mm safety plugs, 1 m (3.3 ft). For customized analog transducer connection	X	X	X	X	GA-00040
<i>Cable Analogue XLR/open ends</i>						
	XLR female / open ends, 1 m (3.3 ft)	X	X	X	X	GA-00041
<i>Extension cable Analogue Input</i>						
	For analog input, XLR3 female / XLR3 male Analog cable EGIL/TM, 7.5 m (24.6 ft)	X	X	X	X	GA-00042
<i>Transducer cable, XLR / IP / TS</i>						
	NOVOTECHNIK IP/TS, 1 m (3.3 ft)	X	X	X	X	GA-00044
<i>Transducer cable, XLR / TLH / LWH</i>						
	NOVOTECHNIK TLH/LWH, 0.5 m (1.6 ft)	X	X	X	X	GA-00049
<i>Transducer cable XLR / LWG</i>						
	NOVOTECHNIK LWG/M12, 0.5 m (1.6 ft)	X	X	X	X	GA-00050

# Cables

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Cable Current clamp 	For current clamp, BNC / XLR3, 0.3 m (1 ft)	X	X	X	X	GA-00140
Cable, extension EGIL Timing MAIN 	Extension cable for time measurement of main contacts, XLR5 female / XLR5 male 10 m (32.8 ft)				X	GA-00150
	5 m (16.4 ft)				X	GA-00155
Cable, EGIL Timing 	Timing 5 m (16.4 ft) XLR5 / 4 mm banana incl. clamps				X	GA-00160
Cable, EGIL Timing AUX 	AUX1&2, timing 2 m (6.5 ft) XLR5 / 4 mm banana excl. clamps				X	GA-00170
Cable, EGIL Voltage sense 	SDRM Voltage sense cable incl. clamps, 2 m (6.5 ft)				X	GA-00175
Cable set, Timing TM1800 AUX TM1700 AUX TM1600 MAIN TM1600 AUX 	The cable sets consist of 8 cables with clamps and 4 mm stackable safety plugs. For timing of CB contacts. 5 m (16.4 ft)	X	X	X		GA-00231
	10 m (32.8 ft)	X	X	X		GA-00241
	15 m (49.2 ft)	X	X	X		GA-00251
	20 m (65.6 ft)	X	X	X		GA-00261
	25 m (82 ft)	X	X	X		GA-00271
	40 m (131 ft)	X	X	X		GA-00281

# Cables

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
SCA600/Coax. Cable		X	X	X		GA-00750
Extension cable Analogue input						
	XLR female/XLR male 1 m (3.3 ft)	X	X	X	X	GA-00760
Cable reel	20 m (65.5 ft), 4 mm stackable safety plugs					
	Black	X	X	X	X	GA-00840
	Red	X	X	X	X	GA-00842
	Yellow	X	X	X	X	GA-00844
	Green	X	X	X	X	GA-00845
	Blue	X	X	X	X	GA-00846
Cable Timing MAIN						
	Timing M/R XLR3 male / banana, 5 m (16.4 ft), Length of the split portion (retractable sock), 2.4 m (8 ft) to 3.8 m (12 ft)	X	X			GA-00850
Extension cable Timing MAIN						
	For Timing M/R modules, XLR3 male / XLR3 female, 10 m (32.8 ft)	X	X			GA-00851
Adapter for Doble digital transducer						
	For Doble digital transducer	X	X			GA-00867
Adapter for Siemens digital transducer						
	For Siemens digital transducer	X	X			GA-00868

# Cables

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Adapter for Vanguard digital transducer 	For Vanguard digital transducer	X	X			GA-00869
Cable Timing AUX 	<b>Including:</b> 4 Adapter for terminal block 4 Cable lug adapter 1 Cable, 5 m, (16.4 ft)	X	X			GA-00870
Digital transducercable 	For customized digital transducer connection RS422, SUB-D15 / open ends, 10 m (33 ft)	X	X			GA-00885
Digital transducer extension cable 	RS422, SUB-D15 / SUB-D15, 10 m (33 ft)	X	X			GA-00888
Digital transducer cable for EIL rotary and touchless linear 	For Baumer EIL rotary transducer and SIKO touchless linear transducer, D-SUB 15 / M12  20 m (66 ft)  10 m (33 ft)	X	X			GA-00887  GA-00889
Adapter for Elcon digital transducer 	For using Leine & Linde 530 digital transducer, 10 m (33 ft)	X	X			GA-00890
Baumer digital cable 	For using Baumer BDH16.05A3600-LO-B, digital transducer, 10 m (33 ft)	X	X			GA-00895

# Cables

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Ethernet cable, network						
	Cable for connection to network/LAN, RJ45	X	X			GA-00970
TM1700/1800 DCM extension cable						
	1 DCM extension cable, DIN 6, 10 m (33 ft) Old type	X	X			GA-00998
	GA-00999					
	1 DCM extension cable, DIN 7, 10 m (33 ft) Actual type. See "TM1700/1800 DCM Extension cable" on page 9	X	X			GA-00999
Open analog cable						
	For customized analog transducer connection, 1 m (3.3 ft)	X	X	X	X	GA-01000
Extension cable Analogue Input						
	For analog input, XLR3 female / XLR3 male Analog cable EGIL/TM, 10 m (33 ft)	X	X	X	X	GA-01005
Cable kit Control						
	Control kit for three phases <b>Including:</b> 5 Test clip 5 Adapter for terminal block 5 Cable lug adapter 5 5 m (16 ft) 2 0.25 m (10") 2 Jumper 1 Plastic box	X	X			GA-90002
HV Timing cable kit						
	For Timing M/R modules, XLR3 male / XLR3 female 5 Cable, 10 m (32.8 ft)	X	X			GA-90005

# Cables

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Connection kit for Control cables 	<b>Including:</b> 5 Test clip 5 Adapter for terminal block 5 Cable lug adapter 1 Plastic box	X	X	X	X	GA-90010

# DCM – DualGround

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>DCM – DualGround</b>						
DCM	DCM TM1700 DualGround Timing					
	3- channels <b>Including:</b> 1 DCM Upgrade cable kit CG-19180		X			BL-59190
	6-channels <b>Including:</b> 2 DCM Upgrade cable kit CG-19180		X			BL-59192
TM1700/1800 DCM Upgrade cable kit	Cables for 3 channels addition DualGround upgrade from 3 to 6 channels Length of the 1-cable portion, 10 m (33 ft) Length of the 2-cable portion, 1.5 m (5 ft) <b>Including:</b> 3 DCM cable units KD-03040 6 Clamps		X	X		CG-19180
TM1700/1800 DCM Extension cable kit	 DualGround cable, DIN 7, extension for 3 channels 10 m (33 ft), 3 x GA-00999		X	X		CG-19181
DCM - TM1800	Module for TM1800 DCM Module 3 DCM cables, 12 m (39 ft) DCM to Timing M/R cable GA-12900 6 Clamps KD-03040 Accessory bag GD-31040		X			CG-19190
	DCM Module 6 DCM cables, 12 m (39 ft) DCM to Timing M/R cable GA-12900 12 Clamps KD-03040 Accessory bag GD-31040		X			CG-19192
DCM Span extension cable	 Cable to extend the span in the TM1700/1800 DCM BNC / BNC, 2 m (6.6 ft)		X	X		GA-00720
DCM Cable link	 DCM to Timing M/R		X			GA-12900

# Software

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Software</b>						
CABA Win						
For TM1700/1800, incl. Ethernet cross-over cable		X	X			CG-8000X
For TM1600, incl. fiberoptics and USB interface				X		BL-8203X
For EGIL, incl. USB cable					X	BL-8206X
Upgrade from R04 and lower to latest version, including Test Plan Editor (TPE)		X	X	X	X	CG-8040X

# Application kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Application kits</b>						
<i>First trip kit</i>		For single operating mechanism, 1 + 3 clamps	X	X		BL-90700
		For three operating mechanisms, 3 + 3 clamps	X	X		BL-90710
<i>Synchro Switch Relay kit</i>		Synchronized Switching Relay test kit incl. accessories, software and cables (delivered in transport case)				
		SSR kit for TM 1700/1800	X	X		CG-91200
		SSR for TM1600 (incl. VD401)		X		BL-91200
<i>VDS Adapter</i>		Accessory for on-line timing of MV breakers. Enables on-line timing on circuit breakers installed in enclosed medium voltage substations. Adapted to connect directly to the capacitive VDS (Voltage Detection System) interface according to the IEC 61243-5 and VDE 0682 T415 standards.	X	X	X	XB-39260
<i>Trig source selector</i>		Combines signals from six trig sources into one single trig signal. Ideal when making on-line testing and using multiple trig sources, e.g. close command, trip command, spring charge motor, disconnecter and ground switches. Eliminates the need of reconnections between tests since all connections can be made initially.				XB-39265

# Application kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Transducer calibration kit 	Plate XB-39022 not included	X	X	X	X	XB-39095
Vibration kit 	The Vibration kit extends TM1800/TM1700/TM1600 and CABA Win with the equipment and software required for recording and analyzing vibration signals at a circuit breaker. The kit includes the signal conditioning unit SCA606, the software CABA Win Vibration and one vibration channel. The vibration solution can be extended up to 6 channels.	X	X	X		BL-13090
Vibration channel 	Additional vibration channel to be used together with the Vibration kit. Each Vibration channel includes accelerometer, accelerometer adapter, cables to SCA606 and cables to TM1800/TM1700/TM1600*.	X	X	X		XB-32010

# Static and dynamic resistance measurement

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.	
<b>Static and dynamic resistance measurement</b>							
SDRM201 EGIL		<i>Included accessories:</i>					
		SDRM Cable for EGIL	GB-03431				
		SDRM multi cable extension, 10m (33ft)	GA-12812				
		Voltage sense	GA-00175				
		Voltage sense extension cable	GA-00150				
		Current cable (red)	GA-12820				
		Current cable (black)	GA-12830				
		Clamps (2 pcs)	KD-03040				
		Ground cable, 2.5 mm <sup>2</sup> , 10 m (33 ft)	GA-00208				
		Charger	HC-04210				
		Accessory bag	GD-31040				
		Case	GD-00222			X	CG-90250
SDRM201 TM1700/TM1800			<i>Included accessories:</i>				
			SDRM Cable for TM1700/1800	GB-03412			
			SDRM multi cable extension, 10m (33ft)	GA-12812			
	Current cable (red)		GA-12820				
	Current cable (black)		GA-12830				
	Ground cable, 2.5 mm <sup>2</sup> , 10 m (33 ft)		GA-00208				
	Charger		HC-04210				
	Accessory bag		GD-31040				
	Case		GD-00222	X	X		CG-90260
	Pack of 3 units (CG-90260) for circuit breaker with 1 Break/Phase						CG-90263
SDRM202			<i>Included accessories:</i>				
			SDRM Cable for TM1700/1800	GB-03412			
		SDRM multi cable extension, 10 m (33 ft)	GA-12812				
		Current cable, red, 2 pcs, 3 m (9.8 ft)	GA-12820				
		Current cable, black 2 pcs, 0.5 m (1.6 ft)	GA-12830				
		Ground cable, 2.5 mm <sup>2</sup> 10 m (33 ft)	GA-00208				
		Charger	HC-04210				
		Accessory bag	GD-31040				
		Case	GD-00222	X	X		CG-90200
		Pack of 3 units (CG-90200) for circuit breaker with 2 Breaks/Phase					CG-90230
		SDRM Cable for EGIL	GB-03431				
		SDRM multi cable extension, 10 m (33 ft)	GA-12812				
		Voltage sense cable, 2 m (6.5 ft)	GA-00175				
		Voltage sense extension cable, 10 m (33 ft)	GA-00150				
		Current cable, red, 2pcs, 3 m (9.8 ft)	GA-12820				
	Current cable, black, 2 pcs, 0.5 m (1.6 ft)	GA-12830					
	Clamps (2 pcs)	KD-03040					
	Ground cable, 2.5 mm <sup>2</sup> 10 m (33 ft)	GA-00208					
	Charger	HC-04210					
	Accessory bag	GD-31040					
	Case	GD-00222			X	CG-90220	

# Static and dynamic resistance measurement

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
SDRM202 Cable	 <p>GB-03412</p>	<b>Including:</b> SDRM Cable for TM1700/1800 GB-03412 Accessory bag GD-31040	X X	X	X	CG-90205
3-phase SDRM Cable	 <p>GB-03412</p>	<b>Including:</b> SDRM Cable for EGIL GB-03431 Voltage sense extension cable 10 m (33 ft) GA-00150 Accessory bag GD-31040 Voltage sense cable, 2 m (6.5 ft) GA-00175 Clamps 2 pcs) KD-03040		X		CG-90225
3-phase SDRM Cable		For 3-Phase measurement at two breaks/phase <b>Including:</b> 3-phase SDRM Cable GB-03460 Power supply HC-04212 Accessory bag GD-31040	X X	X	X	CG-90235
Extension cable, SDRM201/202		Extension cable for: CG-90200, CG-90220, CG-90250 and CG-90260 10 m (33 ft)	X X	X	X	GA-12812
Current cables and clamps for SDRM202		Cable, red 3 m (9.8 ft) Cable, black, 0.5 m (1.6 ft)	X X	X X	X X	GA-12820
			X X	X X	X X	GA-12830

# Transducers

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Transducers</b>						
<b>Linear</b>						
<b>Analog</b>						
<i>TLH-150</i>	150 mm (5.9") travel <sup>1)</sup>	X	X	X	X	XB-30016
<i>TLH-225</i>	225 mm (8.8") travel <sup>1)</sup>	X	X	X	X	XB-30017
<i>TLH-500</i>	500 mm (19.7") travel <sup>1)</sup>	X	X	X	X	XB-30020
<i>TLH-750</i>	750 mm (29.5") travel <sup>1)</sup>	X	X	X	X	XB-30022
<i>TLH-1000</i>	1000 mm (39.4") travel <sup>1)</sup>	X	X	X	X	XB-30023
	<sup>1)</sup> Including cable, 0.5 m (20")					GA-00049
<i>LWG 150</i>	150 mm (5.9") travel <sup>2)</sup>	X	X	X	X	XB-30116
<i>LWG 225</i>	225 mm (8.8") travel <sup>2)</sup>	X	X	X	X	XB-30117
<i>LWG 500</i>	500 mm (19.7") travel <sup>2)</sup>	X	X	X	X	XB-30120
	<sup>2)</sup> Including cable, 0.5 m (20")					GA-00050
<i>TS 150</i>	150 mm (5.9") travel <sup>3)</sup>	X	X	X	X	XB-30030
<i>TS 50</i>	50 mm (1.9") travel <sup>3)</sup>	X	X	X	X	XB-30031
<i>TS 25</i>	25 mm (1") travel <sup>3)</sup>	X	X	X	X	XB-30033
	<sup>3)</sup> Including cable, 1 m (39")					GA-00044
The above transducers are also available in other lengths, please contact Megger for more information.						
<b>Touchless linear digital transducer (kit)</b>						
	<b>Including:</b> Magnetic band, 2 m (6 ft) XB-39250 Touchless linear digital transducer, SIKO XB-39237 Cable, 10 m (33 ft) GA-00889 Clamping base XB-39014 Flexible arm CB-39021	X	X			XB-39230

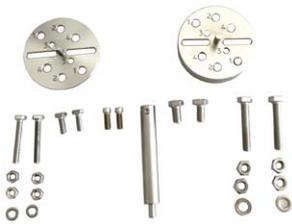
# Transducers

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Rotary</b>						
<b>Analog</b>						
Transducer kit	 <p data-bbox="700 474 884 600">Novotechnik IP6501 <b>Including:</b> Cable, 1 m (39"), Flex coupling, 6 mm Hexagon wrench</p>	X	X	X	X	XB-31010
<b>Digital</b>						
<b>Transducer kit</b>						
	<p data-bbox="700 698 1027 723">Baumer EIL580-SC10.5RH.03600.A</p> <p data-bbox="700 730 916 801"><b>Including:</b> Flex coupling, 10/6 mm Hexagon wrench</p> <p data-bbox="740 804 963 828">With Cable, 10 m (33 ft)</p>	X	X			XB-39130
	With Cable, 20 m (66 ft)	X	X			XB-39135

# Transducer mounting kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Transducer mounting kits</b>						
<b>Universal kits</b>						
<i>TLH/LWG/TP1 kit</i>						
	For use with linear transducers (TLH/LWH)	X	X	X	X	XB-39065
<i>Transducer kit 500/600 mm</i>						
	Typically suited for bulk oil circuit breakers. <b>Including:</b> Transducer TLH-500 Transducer adapter cable 0.5 m (GA-00049) L-shaped mounting bracket Pull rod 850 mm with UNF 10/32 threads Transducer/rod clamp Welding clamp Transport case Single phase, Analog, Linear, 500 mm (19.7")	X	X	X	X	XB-40101
	Same as above but with transducer TLH-600. Single phase, Analog, Linear, 600 mm (23.6")	X	X	X	X	XB-40102
<i>Transducer kit 300 mm</i>						
	Typically suited for SF6 dead tank and bulk oil circuit breakers. <b>Including:</b> Transducer TLH-300 Transducer adapter cable 0.5 m (GA-00049) L-shaped mounting bracket Pull rods 250 mm and 500 mm with UNF 10/32 and UNC 1/4 20 threads Transducer/rod clamp Welding clamp Transport case Single phase, Analog, Linear, 300 mm (11.8")	X	X	X	X	XB-40103
	Same as above but with three of each item. 3 phase, Analog, Linear, 300 mm (11.8")	X	X	X		XB-40104
<i>Transducer mounting kits</i> <i>Note: Transducers not included</i>						
	Same as above kits but without transducers, i.e. includes only case, brackets and other mounting details. Fits with: Single phase, Analog, Linear, 500-600 mm (19.7"-23.6")	X	X	X	X	XB-40110
	Fits with: Single phase, Analog, Linear, 300 mm (11.8")	X	X	X	X	XB-40111
	Fits with: 3 phase, Analog, Linear, 300 mm (11.8")	X	X	X		XB-40112
<i>Rotary transducer mounting kit</i>						
	For transducers XB-31010 and XB-39130 <b>Including:</b> Clamping base XB-39014 Flexible arm XB-39021 Holder for angular transducer XB-39022 Plastic transport case XB-39023 Adapter M6/6 2 Nuts M6 XB-39025 Adapter M8/6 2 Nuts M8 XB-39026 Adapter M10/6 2 Nuts M10 XB-39027 Adapter M12/6 2 Nuts M12 XB-39028 Holder for dig. rotary EIL and linear LWG, Ø 36 mm XB-39005	X	X	X	X	XB-51010

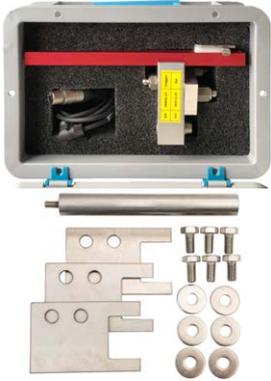
# Transducer mounting kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Universal transducer mounting kit</b> 	For linear and rotary transducers <b>Including:</b> Magnetic base XB-39013 Clamping base XB-39014 Flexible arm XB-39021 Holder for angular transducer XB-39022 Plastic transport case XB-39023 Adapter M6/6 2 Nuts M6 XB-39025 Adapter M8/6 2 Nuts M8 XB-39026 Adapter M10/6 2 Nuts M10 XB-39027 Adapter M12/6 2 Nuts M12 XB-39028 Universal support XB-39029 Holder for dig. rotary EIL and linear LWG, Ø 36 mm XB-39005					
<b>Universal adapter for rotary transducer</b> 	Universal adapter to breaker and drive types HPL, LTB, BLG, 8DN9, 8DN8, 3AP1FG, 3AQ, 3DP3, 3AP1FI	X	X	X	X	XB-51020
<b>Circuit breaker specific kits</b>						
<b>HPL kit (ABB)</b> 	For use on ABB HPL circuit breakers	X	X	X	X	XB-39080
<b>BLG kit (ABB)</b> 	For use on ABB mechanisms BLG 352, 352C, 1002 and 1002A	X				XB-39085
<b>LTB kit (ABB)</b> 	For use on ABB LTB circuit breakers with 3-column stand	X	X	X	X	XB-39090
<b>LTB Kit (ABB)</b> 	<b>Including:</b> Mounting kit, XB-51010 Universal adapter for rotary transducer XB-51060	X	X	X	X	XB-61010

# Transducer mounting kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
VD4 Adapter (ABB)						GB-39030
HPL/BLG Kit (ABB)						
	Fits with TS-transducer, Stainless steel					
ELF-HKA/AHMA Kit (ABB)						
	<b>Including:</b> Mounting kit XB-51010 Universal adapter for rotary transducer XB-51060					XB-61020
ELF-HKA/AHMA Kit (ABB)						
	3-Phase Diagnostic Set for ABB drive mechanism type AHMA 4/8 <b>Including:</b> 3 Transducers 3 Adapter cable GA-00044 Mounting details Transport case					XB-61030
ELF-HKA/AHMA Kit (ABB)						
	1-Phase Diagnostic Set for ABB drive mechanism type AHMA 4/8 <b>Including:</b> 1 Transducers 1 Adapter cable GA-00044 Mounting details Transport case					XB-61050
HMB Kit (ABB)						
	For drive mechanism type HMB 4/8 Three phase set complete in case <b>Including:</b> 3 PES-HMB8 Transducers 3 Adapter cable GA-00044 1 Transport case 3 Calibration Certificates					XB-61040

# Transducer mounting kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
HMB Kit (ABB)	 <p>For drive mechanism type HMB 4/8 One phase set complete in case <b>Including:</b> 1 PES-HMB8 Transducers 1 Adapter cable, GA-00044 1 Transport case 1 Calibration Certificates</p>	X	X	X	X	XB-61060
GL314-GL318 (GE)	 <p><b>X3</b></p> <p>3-phase diagnostic set for below listed breakers from GE: GL314(X) GL315(X)[D] GL316(X)[D], GL317(X)[D] GL318(X)[D] All with FK3-XX mechanism <b>Including:</b> 3 Digital transducers 3 Digital transducer cables, 10 m (33 ft) 3 Flexible arms, XB-39021 3 Clamping bases, XB-39014 1 Transport case Assembling tools</p>	X	X	X	X	XB-39270
<b>Ready-to-use kits – Rotary</b>						
<b>Analog</b>						
1-phase kit		X	X	X	X	XB-71010
3-phase kit	Incl. 3 x 1-phase kits XB-71010	X	X	X		XB-71013

# Transducer mounting kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Digital</b>						
1-phase kit						
	<b>Including:</b> Transducer XB-39130 Mounting kit XB-51010 With Cable, 10 m (33 ft)	X	X			XB-71020
	With Cable, 20 m (66 ft)	X	X			XB-71022
3-phase kit	<b>Including:</b> 3 x 1-phase kits XB-71020	X	X			XB-71023
	<b>Including:</b> 3 x 1-phase kits XB-71022	X	X			XB-71025
<b>Transducer mounting accessories</b>						
Holder for transducer						
	Holder for dig. rotary Baumer EIL and linear LWG, Ø 36 mm	X	X			XB-39005
Switch magnetic base						
	For easy attachment of transducer mounting arrangements. Equipped with threaded hole suited for a "Flexible arm".	X	X	X	X	XB-39013
Clamping base						
	Clamp suited for a "Flexible arm" Jaw opening max 40 mm	X	X	X	X	XB-39014
Flexible arm						
	M8 bolt threads at the ends of the arms	X	X	X	X	XB-39021
Holder for transducer						
	Holder for rotary transducers: Novotechnik IP6501 analog and Baumer BDH digital, Ø 55 mm	X	X	X	X	XB-39022

# Transducer mounting kits

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Universal support	 <p>Suited for the "Flexible arms". Rod length is 250 mm Jaw opening max 40 mm</p>					XB-39029
Flex coupling	 <p>For shaft diam. 6 mm (for Novotechnik IP6501)</p>	X	X	X	X	XB-39030
Flex coupling	 <p>For shaft diam. 10 / 6 mm (for Baumer BDH and EIL)</p>	X	X			XB-39032
Thread adapter kit	 <p>Imperial / metrics adapter kit for TLH / TP1 <b>Including:</b> 1 nut metrics, M5 1 spacer nut, M5 / UNF 10-32 1 spacer nut, M5 / UNC 1/4-20 1 nut, UNF 10-32 1 nut, UNC 1/4-20</p>	X	X			XB-39036
Magnetic adapter for motion transducer fitting.	 <p>For attaching rotary transducers on shaft ends. Ideal at first trip test when other mechanical attachment methods are impracticable. Fits to a Ø 6 mm flex coupling. Super strong neodymium magnet. Fits with both resistive and incremental rotary transducers</p>					XB-39037
Holder for TS transducer	 <p>For TS Transducer 18 mm</p>					XB-39512

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
<b>Other</b>						
<i>Dolphin clamps</i>		X	X	X	X	40-08320
	Black, with connection for 4 mm banana plug					
		X	X	X	X	40-08322
	Red, with connection for 4 mm banana plug					
<i>Timing clamp</i>		X	X	X	X	53-31800
	Timing clamp for bolt head					
<i>Cable organizer</i>		X	X	X	X	AA-00100
	Hook-and-loop straps, 10 pcs.					
<i>Long term monitoring</i>						
<i>VD401</i>				X	X	BL-90070
	Voltage divider, ratio 400/1 (for TM1600 and EGIL with analog channel)					
<i>USB to fiber adapter</i>				X		BL-90165
	CABA Hardware USB to fiber adapter					
<i>Current</i>				X	X	BL-90600
	AC/DC clamp/clip-on/current probe, Fluke 80i-110s Current sensor kit 1 channel (Fluke 80i-110s incl. cable GA-00140)					
		X	X	X		BL-90610
	Current sensor kit 3 channels 3 x (Fluke 80i-110s incl. cables GA-00140)					
<i>Breaker Simulator</i> <i>BR5503</i>		X	X	X	X	BL-97390
	Breaker simulator incl. power supply 24V/1 A. For product training and demo purpose. Runs together with all Megger circuit breaker analyzers. Pedagogic design 1 break / phase, Main and PIR contacts Two Auxiliary contacts Analog and Digital motion outputs Breaker status indication Realistic coil currents Connection guide included					
<i>Temperature sensor</i>		X				CG-90070
	With the temperature sensor the ambient temperature is automatically recorded with each measurement and stored together with the test result. The temperature becomes a parameter in CABA Win. Suitable cable is the Analog cable, 10 m GA-01005. Range: -20°C to +50°C (-4°F to +122°F) Resolution: 0.5°C (0.9°F)					

# Other

Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Thermopaper, for Fujitsu	 114 mm, 30 m			X	X	GC-00030
	Box/24 pcs			X	X	GC-00032
Thermopaper	 114 mm, Ø 40 mm	X				GC-00040
Soft case	 Made from sturdy nylon fabric	X	X			GD-00340
Cable and accessories bag,	 With backpack straps and hand straps. Variable height through zipper solution. Dimensions 580x355x165/228 mm (23" x 14" x 6,5"/9")	X	X	X	X	GD-30225
Cable case	 Cable case soft with 11 compartments With shoulder strap and two handles Made from sturdy nylon fabric Dimensions: 740 x 270 x 420 mm <b>Note:</b> No cables included	X	X	X	X	GD-31055
Clamp	 X X X X KD-03040	X	X	X	X	KD-03040
Clamps	 Multipurpose kelvin clamp for timing and low resistance measurement, black, 4 mm banana socket.	X	X	X	X	XB-39300
	 Multipurpose kelvin clamp for timing and low resistance measurement, red, 4 mm banana socket.	X	X	X	X	XB-39302
Ferrite kit	 Accessory for timing of GIS circuit breakers using TM1800 with DualGround™ <b>Including:</b> C-shape ferrite 7 XB-40010 I-shape ferrite 4 XB-40020 Round ferrite 4 30-67090 Hook and loop fastener 4 09-10140 Transport case GD-00440 User's Manual ZP-CG04E	X	X			XB-40090

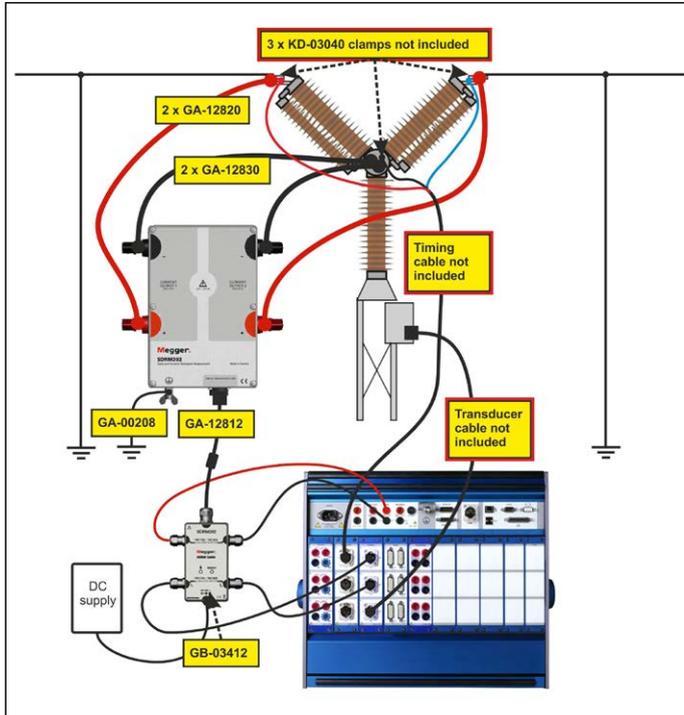
Item	Description	TM1800	TM1700	TM1600	EGIL	Art. No.
Ferrite I-shape slim						
	Width: 25 mm	X	X			XB-40030
Ferrite kit with I-shape slim ferrites						
	Accessory for timing of GIS circuit breakers using TM1800 with DualGround™					
	<b>Including:</b>					
	C-shape ferrite 7 XB-40010					
	I-shape slim ferrite (w. 25mm) 4 XB-40030					
	Round ferrite 4 30-67090					
	Hook and loop fastener 4 09-10140					
	Transport case GD-00440					
	User's Manual ZP-CG04E	X	X			XB-40095

For more information about optional accessories please contact Megger

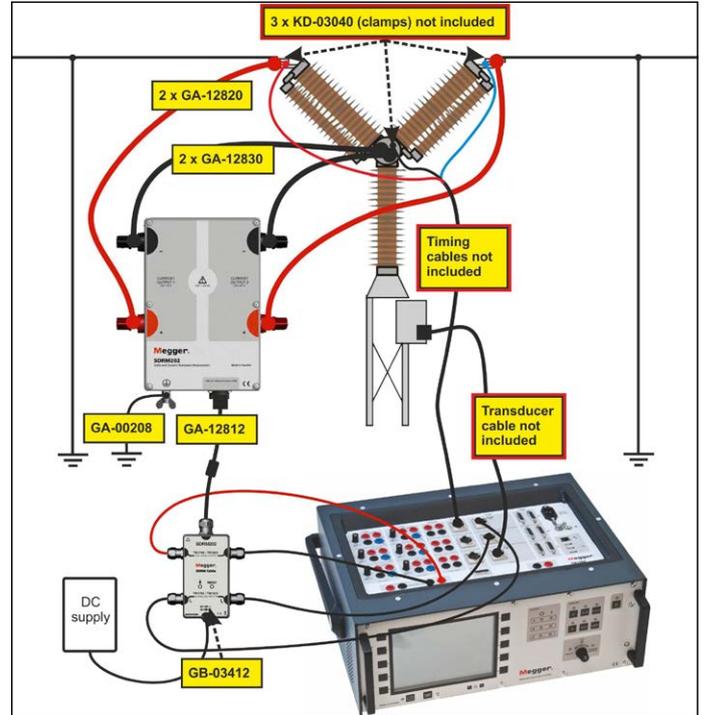
# SDRM Hook-up examples and cable designations

## Connecting and mounting guidance

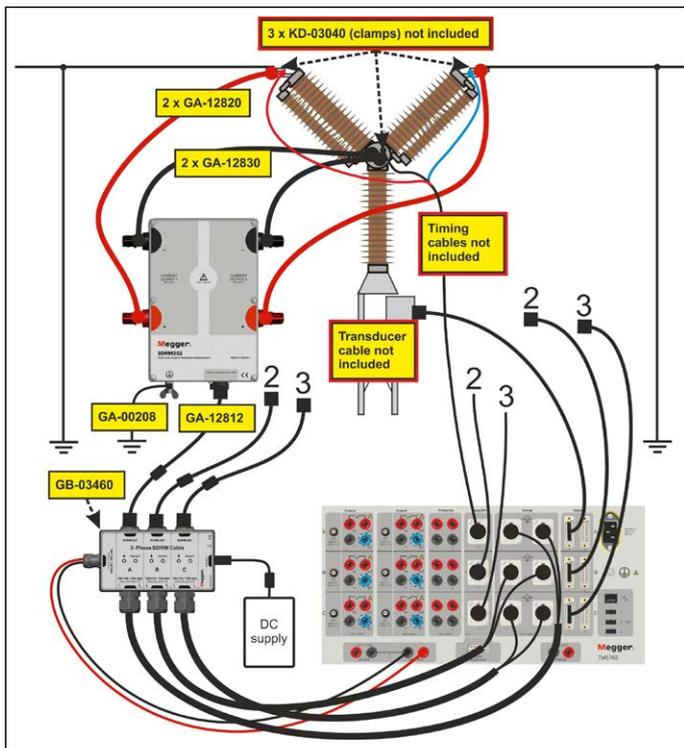
### SDRM Hook-up examples and cable designations



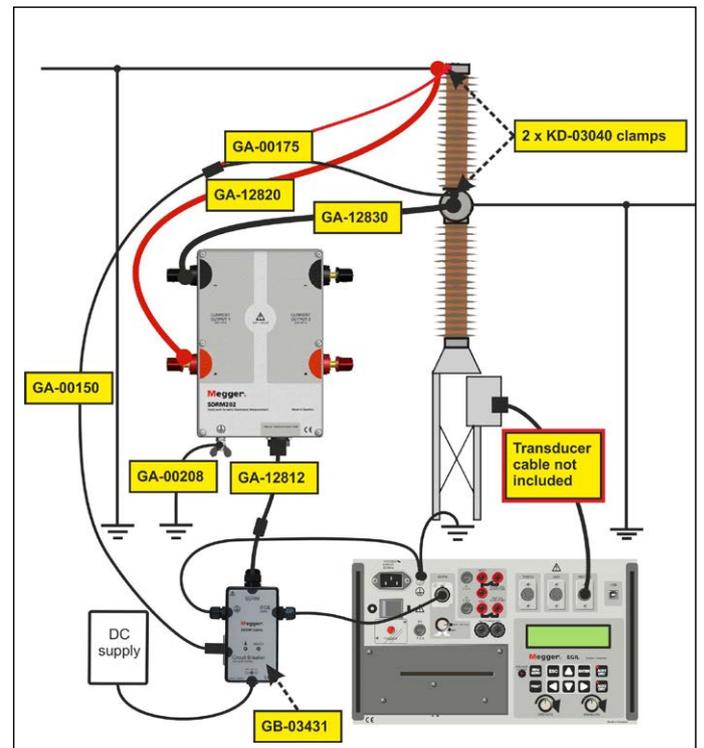
Timing cable is included with the TM1800 timing module. Transducer cable is selected together with the the type of transducer used.



Timing cable is included with the TM1700. Transducer cable is selected together with the the type of transducer used.



The picture shows how a 3-phase SDRM Cable (GB-03460) is connected to one of the phases. Numbers "2" and "3" are correspondingly connected to phases 2 and 3.



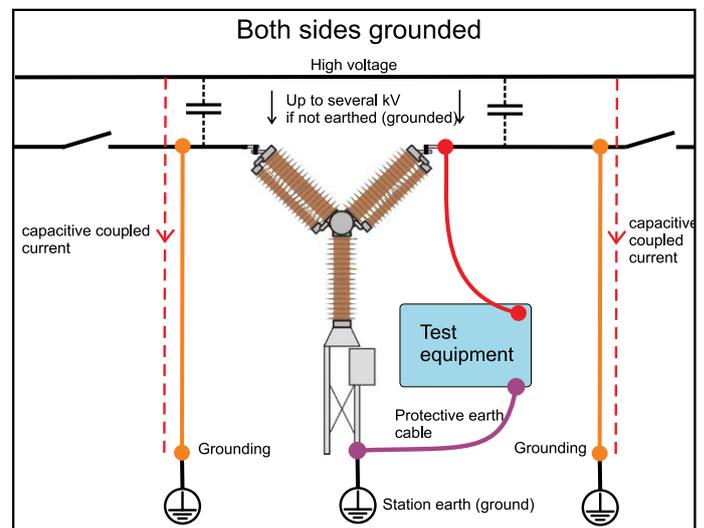
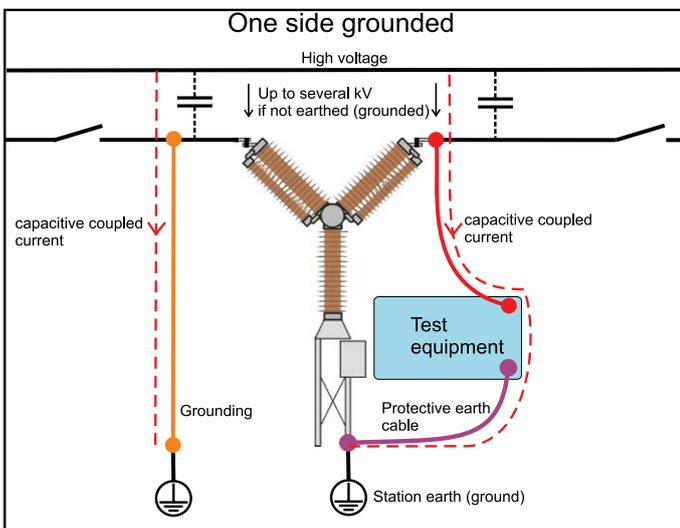
Transducer cable is selected together with the the type of transducer used.

# DualGround - safe testing

## DualGround - safe testing

The best way to provide safety in circuit breaker testing is to keep both sides of the circuit breaker grounded throughout the test. This will also make the test faster and easier. Minimum time shall be spent in the sub-station and focus shall be on the test rather than the equipment.

Conventional vs. DualGround	
Site preparation (isolate work area, apply safety ground, issue permit to work)	Site preparation (isolate work area, apply safety ground, issue permit to work)
Hook up test equipment. Issue sanction for test	Hook up test equipment. Issue sanction for test
Authorised person removes the ground	Risky step left out
Perform testing	Safe testing with both sides grounded
Authorised person applies ground	Risky step left out
Cancel sanction for test. Disconnect test equipment	Cancel sanction for test. Disconnect test equipment
Site closing (cancel permit to work, disconnect ground)	Site closing (cancel permit to work, disconnect ground)

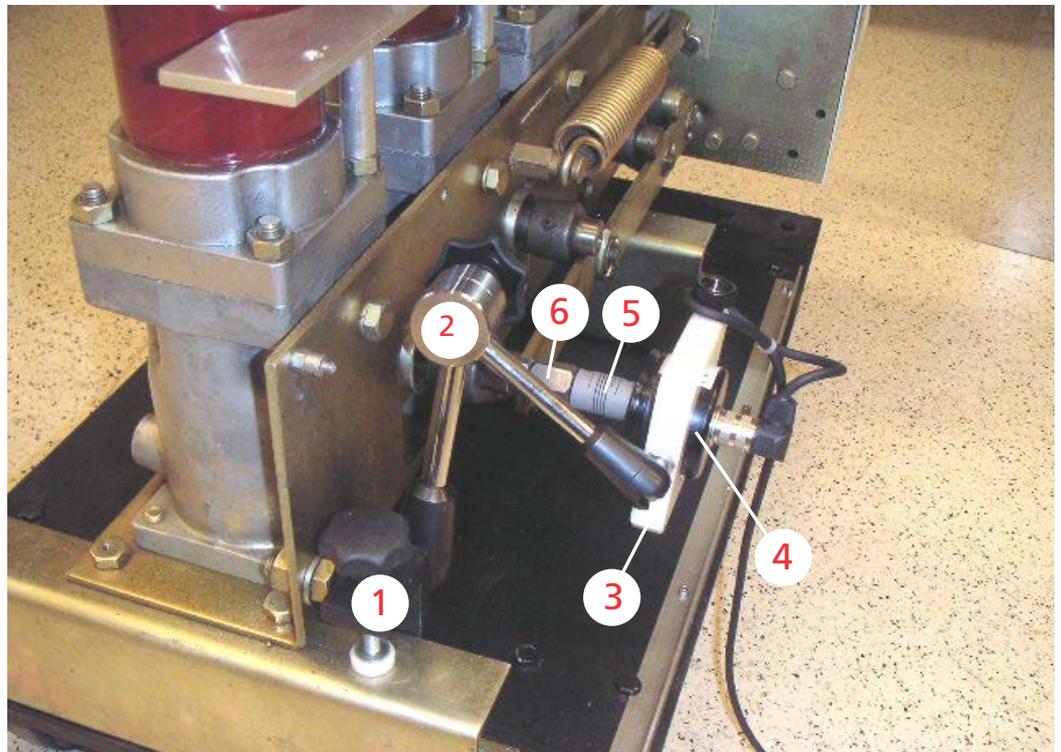


# Transducer mounting examples

## Transducer mounting examples

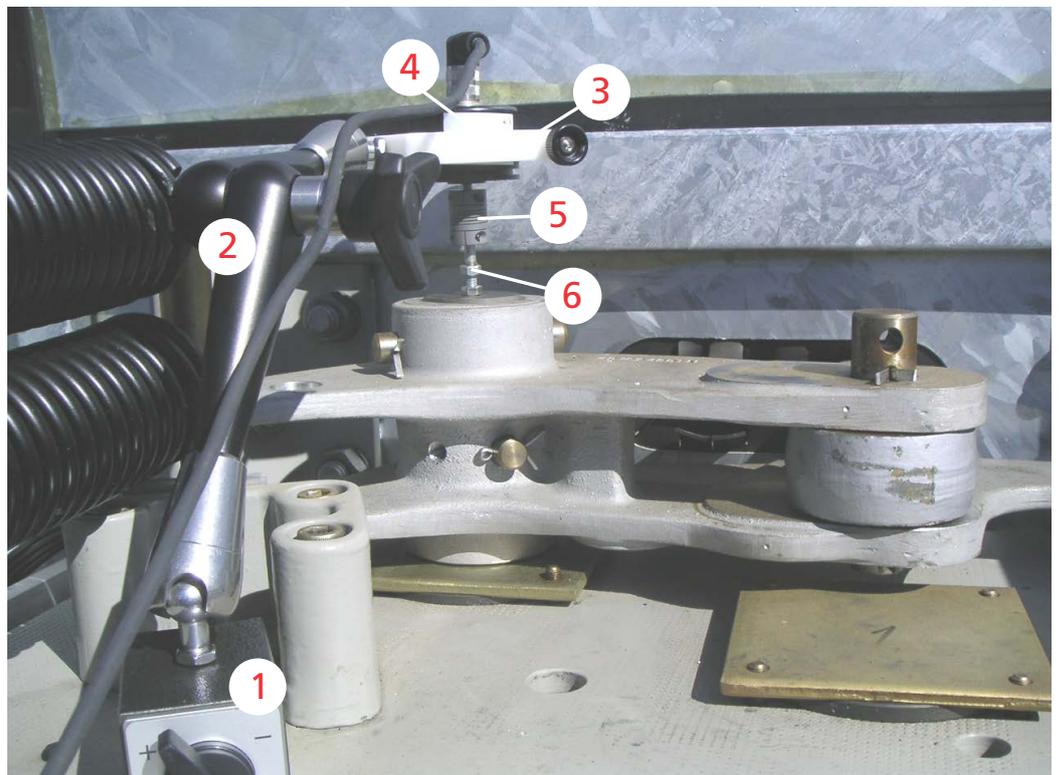
### Analog transducer mounted on a distribution circuit breaker

1. Clamping base
2. Flexible arm
3. Holder angular transducer
4. Novotechnik IP6501
5. Flex coupling
6. Bolt adapter



### Analog transducer mounted on a distribution circuit breaker

1. Magnetic base
2. Flexible arm
3. Holder angular transducer
4. Novotechnik IP6501
5. Flex coupling
6. Bolt adapter



# First trip measurement

## First trip measurement

When a fault occurs on a transmission or distribution line, the mission for the circuit breaker is to open the circuit to isolate the fault from the power source. A quick interruption of the current will avoid or limit damage to expensive equipment caused by the high fault currents.

### Why capture first trip

Testing circuit breakers can be done in many ways, but one of the most common is timing of the main contacts, which gives a direct indication of the trip time. A typical procedure for performing a timing test on a circuit breaker is:

1. Open the CB
2. Disconnect the CB by opening the disconnecter switches
3. Ground the CB
4. Perform the timing test

Will the timing tests show the true trip time? Well, not necessarily. Consider a circuit breaker that has been in service without operating for many months, even years, before it was taken out of service for testing. It might then be suffering from a lack of or dried grease and maybe corrosion in its bearings. These problems can, and most probably will, slow down the first operation.

The problem with this procedure is that the CB has been operated at least once before the testing procedure begins. This operation might be all it takes to "shake off" any corrosion problems or sticky bearings and bring the breaker's trip time up to standard. So when the actual timing test is performed, no problem exists and the service engineer thinks the breaker is in good shape and no further service is needed. Some months later the corrosion is back and when a fault occurs the CB does not trip fast enough, or maybe not at all. This is why it is important to capture the first operation to reveal any problems with the CB.

### Perform a first trip test

A good and time effective way to check the condition of a circuit breaker is to document its behavior at the first open operation after it has been idle for long time. The measurement and connections to the CB are carried out while it is still in service. The only way to measure the currents in a safe way is to use current clamps. For the coil current, either one or three clamps are needed depending on the number of operating mechanisms. The clamps shall be of DC type in order to manage all types of coils.

Connecting current clamps to the CT's secondary winding makes it possible to check the transition of the line currents to zero during the opening of the CB contacts as well as the synchronization of the opening times on the three phases.

The equipment needed for a first trip measurement depends on the configuration of the circuit breaker. All the connections are made inside the control cabinet.

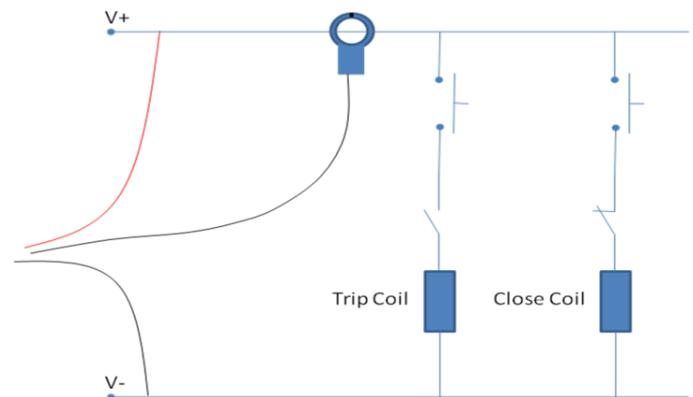


Figure 1. Point for measuring coil current and control voltage.

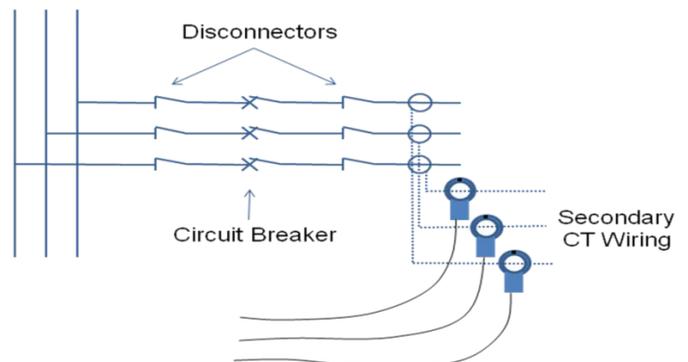


Figure 2. Points for measuring the line currents. Since the CB is in service, the conventional way with leads across the CB cannot be used. Instead, three current clamps are used on the secondary side of the current transformer for each phase.

For ordering information, see "First trip kit" on page 11.







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