

Load Centers and Circuit Breakers

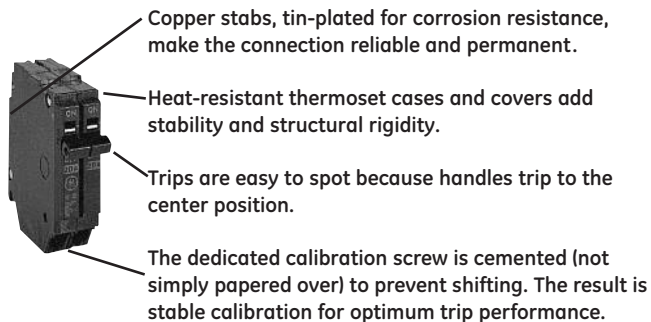
Q-Line Circuit Breakers

Reliability and Economy

Section 1

Special Purpose Circuit Breakers

- PowerMark Gold Main Circuit Breakers
- Arc Fault Circuit Interrupter
- Dual Function GFCI/AFCI Ground Fault & Combination Arc Fault Circuit Breaker
- Ground Fault with Self-Test Feature
- Ground Fault with Equipment Protection
- Switching Neutral
- HID Lighting Breaker
- High Magnetic Breaker
- Molded Case Switch
- Surge Arrester
- TQ Breaker



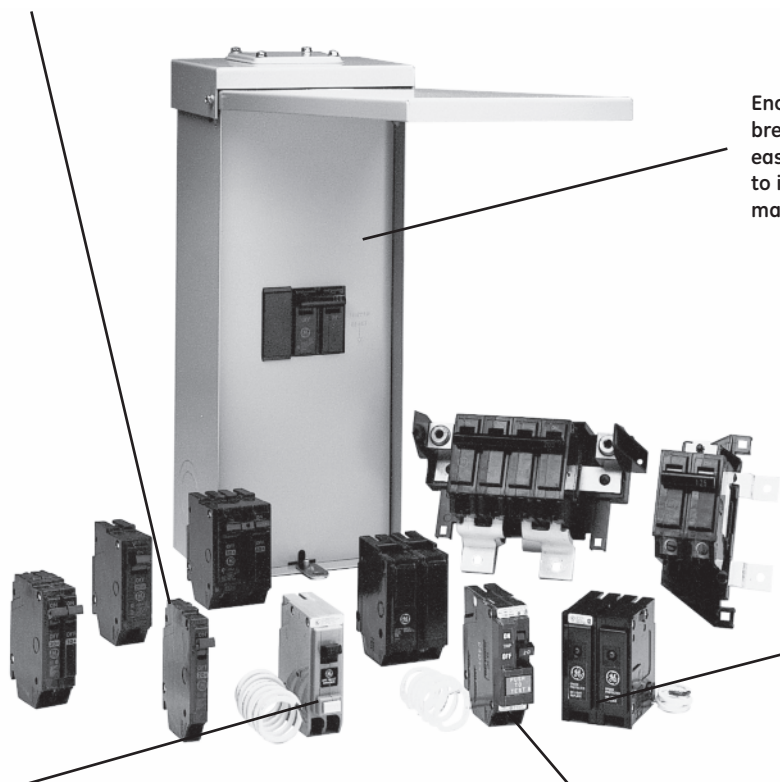
Copper stabs, tin-plated for corrosion resistance, make the connection reliable and permanent.

Heat-resistant thermoset cases and covers add stability and structural rigidity.

Trips are easy to spot because handles trip to the center position.

The dedicated calibration screw is cemented (not simply papered over) to prevent shifting. The result is stable calibration for optimum trip performance.

At 1/2", THQP breakers are half the width of standard breakers, permitting the use of smaller load centers that save money and space in both new construction and service upgrades. They feature the same high-performance design, and meet the same stringent standards as other Q-Line breakers. Our 1" THQL will remain the breaker of choice for many contractors. In applications where space and cost are not critical, they're an excellent choice. But when size and money are driving considerations, THQP breakers are the smart choice.



Enclosed circuit breakers make it easy and efficient to install exterior main breakers.

THQLSURGE surge arresters are easy to install and protect the whole house - computers, fax machines, televisions, stereos, VCRs and other sensitive electronic equipment - from destructive surges.

Maximum protection against all-too-common electrical fires comes from the new technology built into GE's arc fault circuit interrupters (AFCIs). With its ability to detect and interrupt arcing caused by damaged wire insulation or a frayed extension cord, the AFCI takes home and family protection to a new, higher level.

The NEC requires ground fault protection of receptacles outdoors and in garages, bathrooms and spa areas. These ground fault circuit interrupters eliminate the need for separate GFCI receptacles, protect against short circuits and overloads, and prevent shock by detecting very low levels of current leaks and immediately shutting off power to the circuit.



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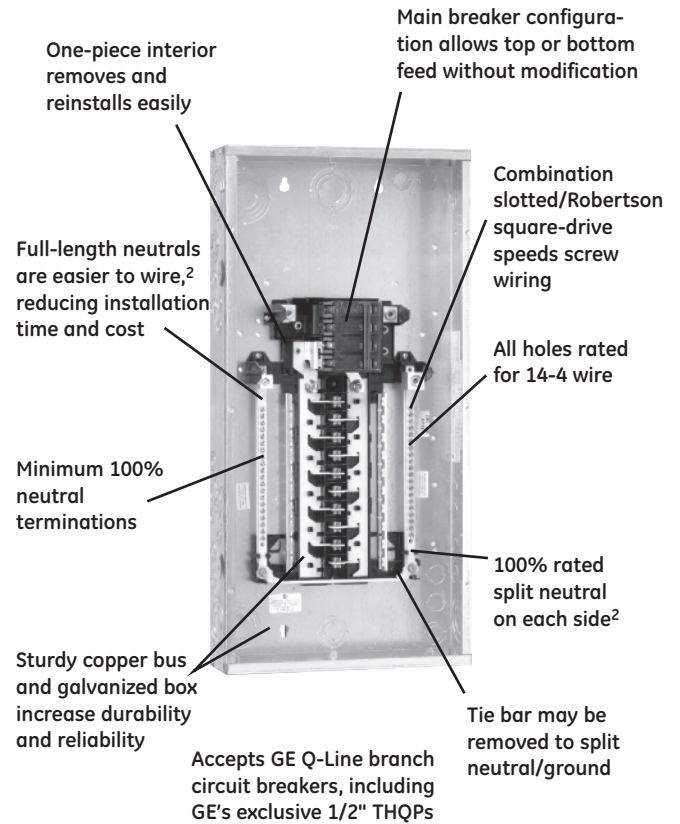
PowerMark Gold Load Centers

Highest Quality and Convenience

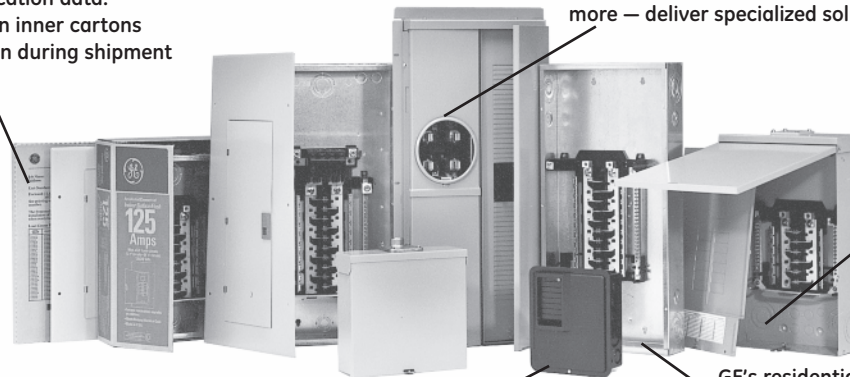
Section 1

PowerMark Gold load centers lower your costs by making installation faster and easier, increasing application flexibility and reducing inventory requirements. At the same time, they deliver obvious and significant advances in design, function and quality.

- UL Listed (Panelboards No. 67)
- Suitable for Use as Service Entrance Equipment when installed in accordance with National Electrical Code
- 60°C/75°C Conductor Rating
- Single phase, 40-225A, 2-42 circuits
- Main lug models field convertible to main breaker
- Main breaker 22kAIC standard - factory installed
- All load centers top or bottom feed
- Indoor and outdoor rated enclosures
- Indoor fronts combination surface/flush
- Copper bus with tin plating standard¹
- Split neutrals extend the full length of the interior for ease of wiring
- Entire main lug line converts easily to main breaker
- Combination surface/flush front with spring-reinforced pan
- Combination slotted/Robertson square-drive screws on neutral,² ground, front and breaker lugs
- Front packed in inner carton for added protection
- Field installable feed-through lugs up to 200A
- Straight-through main wiring
- Main breaker is clearly marked and circuit numbers are stamped on front
- Isolated ground bar is available
- Compact box maintains optimum wire-bending space



Packaging features comprehensive selection and application data. Fronts are packed in inner cartons for added protection during shipment and at the job site.



A complete family of meter socket load centers — ring style and ringless, wide and narrow, meter mains, farm panels and more — deliver specialized solutions for special situations.

Main lug load centers offer an economical solution for subpanels and similar applications. All main lug units 125A and above convert easily to main breaker.

The PowerMark Gold line includes a wide range of outdoor as well as indoor units.

GE's residential load centers reach into commercial applications as well, with riser panels, auxiliary gutters, three-phase units with standard 22kAIC ratings, and all the accessories needed to complete the job.

Accessories and Options

- Door lock and handle
- Equipment ground kits
- Sub-feed and feed-thru lugs
- Front filler plates
- Handle lock and ties
- Hardware kits
- Main breaker retainers
- Neutral kits
- Universal raintight hubs

Safety accessories – convenient and easy to install

- THQLSURGE whole house surge protector
- Arc fault circuit interrupter breaker, 1- or 2-pole
- Ground fault circuit interrupter breaker, 5mA and 30mA
- Generator transfer panel – 30A or 60A, indoor or outdoor
- GE AC disconnects

¹Three-phase PowerMark Plus load centers have aluminum bus with copper breaker mounting stabs.

²16 circuit and above.



Load Centers and Circuit Breakers

PowerMark Gold and Plus Load Centers

Section 1

Product Number Guides

Product Number Guide for Load Centers

(Product number for illustrative purposes only)

T	M	42	4	20	C	CU	B
GE Identification							
Type							
M = Main breaker							
L = Main lug							
LM = Convertible							
PL = Main lug (Thermoplastic)							
Maximum Number 1" Spaces							
2, 4, 6...42							
Insert for 3-Phase 4-Wire Load Centers							
						Insert for Specials	
						G or T = Factory installed ground bar	
						B = Bottom feed main breaker	
						FL = Factory installed feed-through lugs	
						D = Optional door for 6-8 circuit panel. (Doors standard on all units 12 circuits or greater)	
						W = White Front	
						Insert for PowerMark Gold	
						CU = Copper Bus	
						42 = Copper Bus Full 42 circuit panel	
						Enclosure Type	
						C = Combination surface/flush	
						F = Flush	
						S = Surface	
						R = Outdoor	
						Bus Ampere Rating	
						40 = 40 Amps 20 = 200 Amps	
						70 = 70 Amps 22 = 225 Amps	
						10 = 100 Amps 30 = 300 Amps	
						12 = 125 Amps 40 = 400 Amps	
						15 = 150 Amps 60 = 600 Amps	

Product Number Guide for Q-Line Plug-in Circuit Breakers

(Product number for illustrative purposes only)

T	H	QL	1	1*	15	GFT	
GE Identification							
Interrupting Rating							
H = 10kAIC							
HH = 22kAIC							
X = 65kAIC							
Type							
QL = 1" plug-in							
QP = 1/2" plug-in							
QB = 1" bolt-on							
Poles (1, 2, 3)							
						Ground Fault/Arc Fault Circuit Interrupter	
						AF2 = 1- & 2-pole Combination Arc Fault Circuit Interrupter	
						GFEP = 1- & 2-pole Ground Fault with Equipment Protection Interrupter-30 mA	
						GFT = 1- & 2-pole Ground Fault with Self-Test Feature Interrupter - 5 mA	
						DF = 1-pole Dual Function GFCI/AFCI Ground Fault & Combination Arc Fault Circuit Interrupter	
						Ampere Rating	
						Voltage	
						1 = 120/240V	
						2 = 240V	

*Omit character for THQP breakers, which are all 120/240V.



Load Centers and Circuit Breakers

PowerMark Gold and Plus Load Centers

Single-Phase, Three-Wire, 120/240 Vac

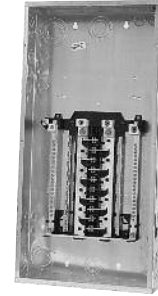
Main Lugs Convertible to Main Breaker

Section 1

Load Center
1PH
Main Lug
Indoor NEMA 1

Product Features

- UL Listed (Panelboards No. 67)
- 60°/75°C Conductor Rating
- Suitable for Use as Service Entrance Equipment when Installed in Accordance with the National Electrical Code
- 22kAIC RMS symmetrical, Except Where Noted
- 6-42 circuit devices UL Listed for bottom mounted lugs by installing complete unit (box, interior and front) upside down.
- For a listing of CSA Listed load centers, visit geindustrial.com.



TLM2020CCU



TPL412R

Main Lugs Factory Installed (TLM units convertible to main breaker), Indoor (NEMA 1) Enclosure

Main Ampere Rating	1 Pole, 1" Spaces	2 Pole, 1" Spaces	1 Pole, 1/2" Spaces	2 Pole, 1/2" Spaces	Total 1-pole Spaces	Front Type	Feed Type ¹	Box Number	Main Wire Size (AWG/kcmil) Cu-Al	Equipment Ground Kit	Product Number
40	2	1	4	1	4	Surface	Top Bottom	1A	14-4	TGK4 (order separately)	TL240SCU ^{1,8}
70	2	1	4	1	4	Surface	Top Bottom	1A	6-3	TGK4 (order separately)	TL270SCU ^{1,8}
125	4	2	8	3	8	Combination Flush/Surface	Top Bottom	2A	1-2/0	TGL1 (order separately)	TL412C ^{1,2,8}
125	4	2	8	3	8	Combination Flush/Surface	Top Bottom	2A	1-2/0	TGL1 installed	TL412CT ^{1,2,3,8}
125	4	2	8	3	8	Thermoplastic	Top Bottom	2	1-2/0	TGL1 (order separately)	TPL412C ^{1,2,3,8}
125	4	2	8	3	8	Thermoplastic	Top Bottom	2	1-2/0	TGL1 installed	TPL412CT ^{1,2,3,8}
125	6	3	12	4	12	Flush	Top Bottom	3A	6-1	TGL2 (order separately)	TLM612FCU ^{4,8}
125	6	3	12	4	12	Flush	Top Bottom	3A	6-1	TGL2 (order separately)	TLM612FCUD ^{4,8}
125	6	3	12	4	12	Flush	Top Bottom	3A	6-1	TGL2 installed	TLM612FCUDG ^{4,8}
125	6	3	12	4	12	Surface	Top Bottom	3A	6-1	TGL2 (order separately)	TLM612SCU ^{4,8}
125	6	3	12	4	12	Surface	Top Bottom	3A	6-1	TGL2 (order separately)	TLM612SCUD ^{4,8}
125	6	3	12	4	12	Surface	Top Bottom	3A	6-1	TGL2 installed	TLM612SCUDG ^{4,8}
125	8	4	16	8	16	Flush	Top Bottom	3A	6-1	TGL2 (order separately)	TLM812FCU ^{4,8}
125	8	4	16	8	16	Flush	Top Bottom	3A	6-1	TGL2 (order separately)	TLM812FCUD ^{4,8}
125	8	4	16	8	16	Flush	Top Bottom	3A	6-1	TGL2 (order separately)	TLM812FCUDG ^{4,8}
125	8	4	16	8	16	Surface	Top Bottom	3A	6-1	TGL2 (order separately)	TLM812SCU ^{4,8}
125	8	4	16	8	16	Surface	Top Bottom	3A	6-1	TGL2 (order separately)	TLM812SCUD ^{4,8}
125	8	4	16	8	16	Surface	Top Bottom	3A	6-1	TGL2 installed	TLM812SCUDG ^{4,8}
125	14	6	20	8	24	Combination Flush/Surface	Top Bottom	18	6-2/0	Included ¹⁰	TLM1212CCU ^{7,8}
125	14	6	20	8	24	White Combo Flush/Surface	Top Bottom	18	6-2/0	Included ¹⁰	TLM1212CCUW ^{7,8,9}

This table continued on next page



Load Centers and Circuit Breakers

PowerMark Gold and Plus Load Centers

Single-Phase, Three-Wire, 120/240 Vac

Main Lugs Convertible to Main Breaker

Section 1

Load Center
1PH
Main Lug
Outdoor NEMA 3R

Main Lugs Factory Installed (TLM units convertible to main breaker), Outdoor (NEMA 3R) Enclosure¹

Main Ampere Rating	1 Pole, 1" Spaces	2 Pole, 1" Spaces	1 Pole, 1/2" Spaces	2 Pole, 1/2" Spaces	Total 1-pole Spaces	Front Type	Feed ¹ Type	Box Number	Main Wire Size (AWG/kcmil) Cu-Al	Equipment Ground Kit	Product Number
40	2	1	4	1	4		Top	R1A	14-4	TGK4 (order separately)	TL240RCU
70	2	1	4	1	4		Top	R1A	6-3	TGK4 (order separately)	TL270RCU
100	5	0	0	0	5	Flush	Top	R41	6-3	TGL1 installed	TL510RT ^{2,8}
125	4	2	8	3	8		Top	R1A	1-2/0	TGL1 (order separately)	TL412R1 ²
125	4	2	8	3	8		Top	R1A	1-2/0	TGL1 installed	TL412RT1 ²
125	4	2	8	3	8		Top	R41	1-2/0	TGL1 (order separately)	TL412R2 ²
125	4	2	8	3	8	Thermoplastic Front	Top	R1	1-2/0	TGL1 (order separately)	TPL412R ^{2,3}
125	4	2	8	3	8	Thermoplastic Front	Top	R1	1-2/0	TGL1 installed	TPL412RT ^{2,3}
125	4	3	12	4	12		Top	R2A	6-1	TGK12 (order separately)	TLM612RCU ⁴
125	8	4	16	8	16		Top	R2A	6-1	TGK12 (order separately)	TLM812RCU ⁴
125	8	4	16	8	16		Top	R3A	6-1	TGK12 (order separately)	TLM812RCU ^{2,5}
125	14	6	20	8	24		Top	R3A	6-2/0	Included	TLM1212RCU ^{7,9}
125	24	12	0	0	24		Top	R4A	6-2/0	TGK24 (order separately)	TLM2412RCU ⁵
							Bottom			TGK32 (order separately)	
150	24	12	12	4	30		Top	R6A	1-3/0 (Cu), 2/0-3/0 (Al)	TGK24 (order separately)	TLM2415RCU ⁶
							Bottom			TGK32 (order separately)	
200	12	6	24	10	24		Top	R5A	6-250	TGK24 (order separately)	TLM1220RCU ⁶
200	16	8	32	14	32		Top	R5A	6-250	TGK32 (order separately)	TLM1620RCU ⁶
200	20	10	40	18	40		Top	R6A	6-250	TGK24 (order separately)	TLM2020RCU ⁶
							Bottom			TGK42 (order separately)	
200	24	12	36	18	42		Top	R39	1-250 (Cu), 2/0-250 (Al)	TGK24 (order separately)	TLM2420R42
							Bottom				
200	32	16	16	6	40		Top	R7A	1-250 (Cu), 2/0-250 (Al)	TGK32 (order separately)	TLM3220RCU ⁶
							Bottom				
200	40	20	0	0	40		Top	R8A	6-250	TGK42 (order separately)	TLM4020RCU ⁶
							Bottom				
225	42	20	0	0	42		Top	R8A	1-300 (Cu), 2/0-300 (Al)	TGK42 (order separately)	TLM4222RCU ⁶
							Bottom				

¹40-225 amp single-phase devices have removable closing caps. Larger ampere devices require field-cut openings. Order hubs separately. See page 1-27.

²10 KAIC.

³125 amp maximum branch capacity.

⁴For main breaker, order THQLRK2 retainer kit plus 2-pole circuit breaker. See page 1-28, 100 amp maximum due to wire bending requirements.

⁵For main breaker, order TQMH000. See page 1-24. Also order 2-pole THQL or THHQL circuit breaker. See page 1-5.

⁶For main breaker, order THQMXXXX circuit breaker from page 1-6.

⁷For main breaker applications, use reverse feed THQL or THHQL circuit breaker (see page 1-5) and THQLRK3 breaker retainer (see page 1-28).

⁸Main and branch breakers are limited to 70 amps.

⁹Load center includes a factory installed ground bar and add-a-lug. See wiring diagram on page 1-30. A separate TGL2 can be added in the unlikely event that another ground bar is required.

Note: See page 11-4, AL Series Lighting Panelboards as replacements for 300-600A load centers.



Load Centers and Circuit Breakers

PowerMark Gold and Plus Load Centers

Circuit Breakers

Section 1

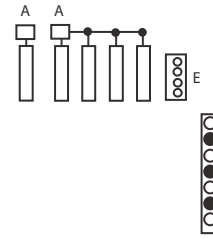
Wiring Diagrams

Breaker Symbol	Breaker Fill	
	1" THQL	1/2" THQP
	1	—
	1	2

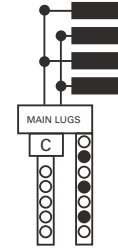
Terminal Symbol	Wire Range (AWG/kcmil)	
	Cu	Al
o	14-8	12-8
•	14-4	12-4
A	6-2	6-2
B	14-1/0	12-1/0
C	6-2/0	6-2/0
D	1-300	2/0-300
E	1-300	1-300
F	6-1	6-1
G	6-3	6-3



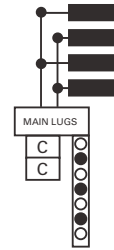
TL240SCU, RCU
TL270SCU, RCU



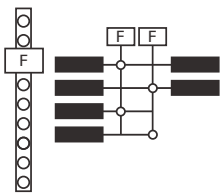
TL510RT



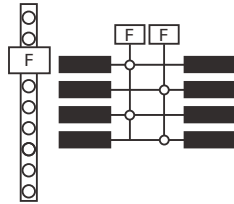
TPL412C, TL412C, TPL412R, TL412R1,
TL412R2, TL412R250GF, TL412R260GF



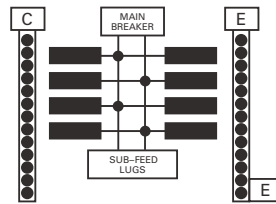
TPL412CT, TL412CT
TPL412RT, TL412RT1



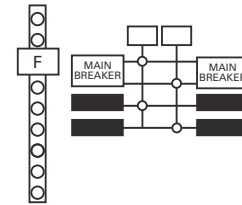
TLM612FCU, SCU
FCUD, SCUD, RCU



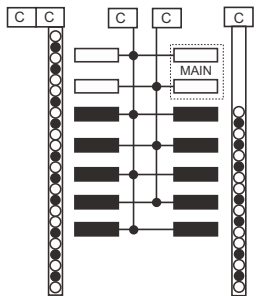
TLM812FCU, SCU,
FCUD, SCUD, RCU



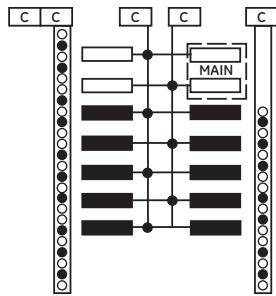
TM815RCUFL
TM820RCUFL



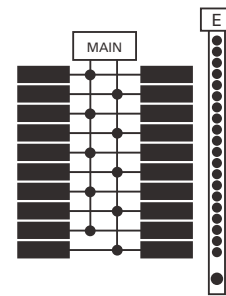
TM860FCUGEN, TLM830FCUGEN,
TM860SCUGEN, TLM830SCUGEN,
TM860RCUGEN, TLM830RCUGEN



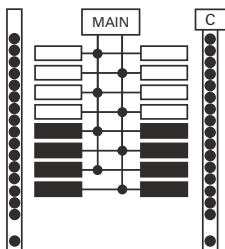
TLM1210CCU, TM1212CCU, TLM1212CCU



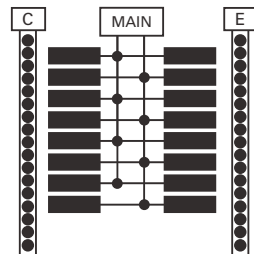
TLM1210RCU, TM1212RCU, TLM1212RCU



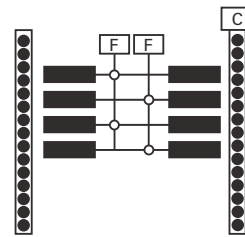
TLM2012CCURP



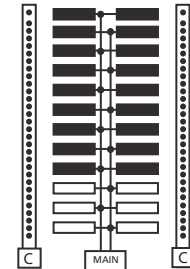
TLM1612CCU, TM1612CCU, TM1612RCU



TLM1615CCU, TM1615RCU, TM1620CCU,
TLM1620CCU, TLM1620RCU



TLM812RCU2



TM2420R42B

