MAGNETIC COUNTERS

DESCRIPTION

1. GENERAL

1.01 This section describes the following magnetic counters:

KS-16348 L1, L2, L3

KS-19798

KS-19948

KS-20092

KS-20206

KS-20208 L1 and L2

KS-20252 L1 through L8

KS-20247

1.02 This section is reissued to add the KS-16348 L1, L2, L3, KS-19948, KS-20092, KS-20206, KS-20208 L1 and L2, KS-20252 L1 through L8, and KS-20247 magnetic counters. Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

2. DESCRIPTION

KS-16348, KS-19798, KS-19948, KS-20092, KS-20206 and KS-20247 Magnetic Counters

2.01 These are all impulse type counters which operate on dc pulses. All are designed for manual resetting except the KS-19948, which is not resettable. The KS-19798 L1 counter in Fig. 1 is typical of the impulse types which have the manual reset feature.

2.02 These counters consist of a single winding coil, a stepping armature to provide the counting function, number discs as required, and a manual reset level when specified. The counters contain 2 to 6 discs and register up to 99 for those containing two number discs and to 999999 for those
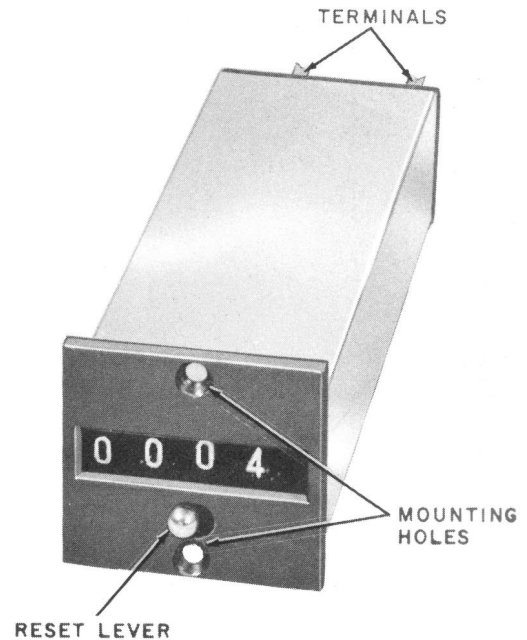

Fig. 1—KS-19798 L1 Magnetic Counter

containing six number discs. The front end consists of a metal plate that supports the body of the counter which is enclosed by a metal or plastic cover. The back consists of a molded black phenolic plate through which the terminals project. The front plate contains the window through which the numerals are read. The KS-19948 counter has a set of output contacts which provide an output pulse at each one hundredth count.

KS-20208 L1 and L2 Magnetic Counters

2.03 These impulse type counters operate on dc pulses and are designed for electrical resetting. They consist of a single winding operate coil, a stepping armature to provide the counting function, a single winding reset coil, and number discs. The L1 counter has four number discs capable of registering up to 9999; the L2 counter has five number discs capable of registering up to 99999

(Fig. 2). These components are contained in a metal cover, the front end of which is a metal plate containing the window through which the numerals are read. The back is a molded plate of black phenolic through which four tinned terminals project.
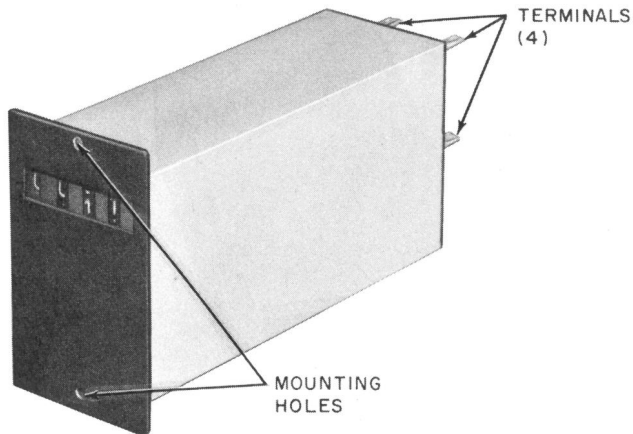

Fig. 2—KS-20208 Magnetic Counter (L1 shown)

2.04 Table A lists the various counters in 2.01 and 2.03 along with the uses and individual features.

2.05 *The KS-20252 Magnetic Counters,* L1 through L8, are a series of counting units based on an electromechanical single wheel counting module. These counters are primarily intended for use in the Traffic Information Gathering Circuit of the No. 5 Crossbar System. An L1 is illustrated in Fig. 3. These modules may be combined to produce counters of any number of digits. Each module has an operate coil, a reset coil, provision for electrical readout, and an output contact to operate the next module or decade. These counters, which are designed for electrical resetting, operate and reset on 48 ±5 volts dc pulses. Reset power may also be half-wave rectified 60 Hz dc or pulsating dc. Each module has one number wheel which is visible through a window in the front mounting panel. A spring loaded drive arm, cocked by the input pulse, advances the counter wheel when the applied voltage is released. Readout is accomplished through a contact on the main drive gear operating against a series of contact segments on the circuit card which forms one cover for the unit. Unless specifically noted, all modules carry the digits 0 through 9.

2.06 The KS-20252 counter modules are approximately 2-3/8 inches high, 1/2 inch wide and extend about 4-3/8 inches behind the mounting plates. Mounting brackets when used add 1 inch to the overall width of each unit. Countersunk mounting holes are provided in either the top and bottom of each module or in the end brackets furnished with some of the lists. Table B lists the various KS-20252 counter modules and their individual characteristics.

2.07 In the event there is a malfunction and the unit does not operate properly, replace the counter and return the defective unit in accordance with local instructions.

TABLE A

MAGNETIC COUNTERS — USES AND FEATURES

SPEC. NO.	LIST NO.	SIZE INCHES (APPROX)	TYPICAL USE	TYPE RESET	NO. OF NUMBER DISCS	DC VOLTS (PULSES)	DC RES OF COIL (OHMS)
KS-16348	L1	4-3/4 long 1-3/8 wide 1-1/4 high	Used in Automatic Transmission Test and Control Circuit in Toll Switching Systems 4, 4A, and 4M	Manual	4	50	1000 ± 10%
	L2		Used in 6F Voiceband Noise Measuring Set J94006F			7	100 ± 10%
	L3		Used in 6A Impulse Noise Measuring Set J94006A			5.5	40 ± 10%
KS-19798		3-7/8 long 1-3/8 wide 1-1/4 high	Traffic Register Circuits in Common Systems and in No. 4A Toll Switching System	Manual	4	45-50	600 ± 10%
KS-19948		4-3/4 long 1-3/8 wide 1-1/4 high	Plant Register Totalizer in Plant Register Circuit and Office Test Trouble Indicator Circuit in No. 5 Crossbar System	Non-resetting	2 (See Note 2)	45-52	600 ± 10%
KS-20092		3-1/2 long 2-1/4 wide 1-1/2 high	912A Wideband Data Test Set	Manual	4	12	100 ± 10%
KS-20206		4-3/4 long 1-3/4 wide 1-1/2 high	4A and 4M Toll Switching System	Manual	5	45-50	600 ± 10%
KS-20208	L1	4-1/2 long 1-3/8 wide 2-3/8 high	In Common Systems, in the J92614A and J92614B Administrative Cabinets	Electrical (See Note 1)	4	45-50	350 ± 10%
KS-20208	L2	4-1/2 long 1-5/8 wide 2-3/8 high	In Common Systems, in the J92614A and J92614B Administrative Cabinets	Electrical (See Note 1)	5	45-50	350 ± 10%
KS-20247		4-3/4 long 1-3/4 wide 1-1/4 high	No. 4 Crossbar and the Crossbar Tandem Switching Systems	Manual	6	45-50	350 ± 10%

Note 1: Single winding reset coil operates on 45 to 50 volt dc pulses and has resistance of 330 ohms ± 10%.

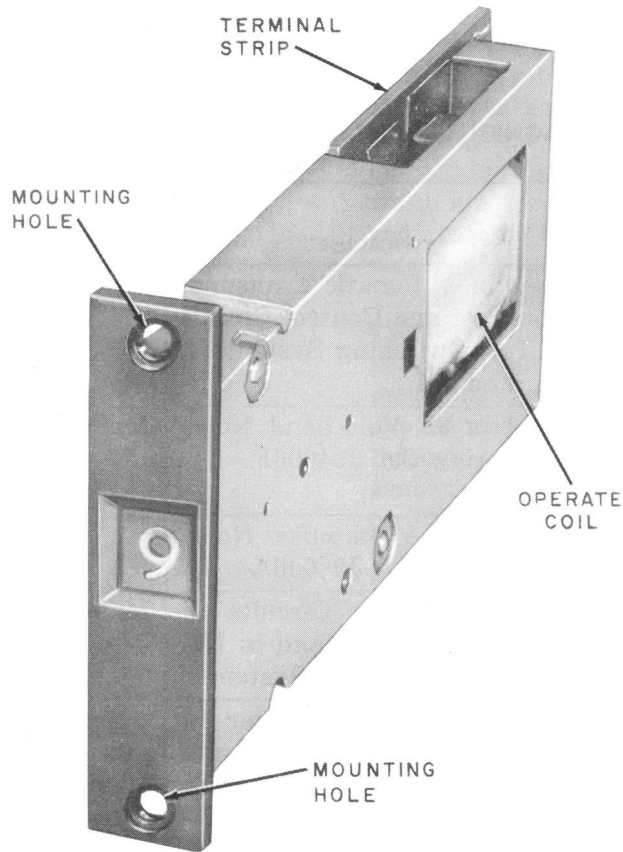*Note 2:* With output contacts closing once each 100 counts.

Fig. 3—KS-20252 Magnetic Counter Module, L1

TABLE B

KS-20252 COUNTERS

LIST NO.	NO. OF DIGITS	VEEDER ROOT SERIES NO.	WIDTH OF ASSEMBLY (INCHES)	TYPE OF MOUNTING	COUNTS
1	1	196901-033	0.5	Direct (For replacement)	0 to 9
2	2	196902-008	2.0	Bracket	0 to 9
3	3	196903-002	2.5	Bracket	0 to 9
4	4	196904-004	3.0	Bracket	0 to 9
5	2	196902-001	1.0	Direct	0 to 9
6	2	726601-433	0.5	Direct	1 to 12
7	2	726602-001	1.0	Direct	Hours and Tens of Hours
8	2	726602-002	1.0	Direct	Minutes and Tens of Minutes