

## Round Style Analog Panel Meters



- UL Recognized - File # E91015  
Except for the Wattmeters & Frequency Meters
- Glass Window for optimum viewing
- Rugged black plastic case
- Black spade-type pointer for easy distant reading



### Ordering Information

| AC Microammeter Rectifier Type Self-Shielding Movement |                             |                              |
|--------------------------------------------------------|-----------------------------|------------------------------|
| Range                                                  | Approx.<br>Impedance (Ohms) | Model / Size and Catalog No. |
|                                                        |                             | 3 - 1/2"<br>Model 45         |
| 0 - 100                                                | 3400                        | 04080                        |

| AC Milliammeters Iron Vane & Rectified Movement * |                                        |                              |                      |                        |
|---------------------------------------------------|----------------------------------------|------------------------------|----------------------|------------------------|
| Range                                             | Approx.<br>Impedance<br>(Ohms ) @ 60Hz | Model / Size and Catalog No. |                      |                        |
|                                                   |                                        | 2 - 1/2"<br>Model 155        | 3 - 1/2"<br>Model 55 | 4 - 1/2"<br>Model 45 * |
| 0 - 1                                             | 600                                    | < >                          | < >                  | 06820 *                |
| 0 - 5                                             | 200                                    | < >                          | < >                  | 06840 *                |
| 0 - 15                                            | 887.0                                  | < >                          | 05380                | < >                    |
| 0 - 50                                            | 80.0                                   | < >                          | 05400                | < >                    |
| 0 - 100                                           | 717.2                                  | < >                          | 05410                | < >                    |
| 0 - 150                                           | 8.76                                   | < >                          | 35069                | < >                    |
| 0 - 250                                           | 3.1                                    | 06080                        | 05420                | < >                    |
| 0 - 500                                           | .9                                     | < >                          | 05430                | < >                    |
| * Rectified Models                                |                                        |                              |                      |                        |

## Round Style Analog Panel Meters

### Ordering Information

| <b>AC Ammeters Iron Vane Movement</b>                         |                                        |                              |                      |
|---------------------------------------------------------------|----------------------------------------|------------------------------|----------------------|
| Range                                                         | Approx.<br>Impedance<br>(Ohms) @ 60 Hz | Model / Size and Catalog No. |                      |
|                                                               |                                        | 2 - 1/2"<br>Model 155        | 3 - 1/2"<br>Model 55 |
| 0 - 1                                                         | .213                                   | 02100                        | 00950                |
| 0 - 1.5                                                       | .105                                   | < >                          | 00960                |
| 0 - 2                                                         | .065                                   | 02120                        | 00970                |
| 0 - 3                                                         | .028                                   | 02130                        | 00980                |
| 0 - 5                                                         | .008                                   | 02140                        | 00990                |
| 0 - 10                                                        | .004                                   | 02150                        | 01001                |
| 0 - 15                                                        | .0025                                  | 02160                        | 01010                |
| 0 - 25                                                        | .002                                   | 02170                        | 01020                |
| 0 - 30                                                        | .0015                                  | 02180                        | 01030                |
| 0 - 50                                                        | .001                                   | 02190                        | 01040                |
| 0 - 75                                                        | .0002                                  | < >                          | 03432                |
| 0 - 75                                                        | .008                                   | 02200 *                      | < >                  |
| 0 - 100                                                       | .008                                   | 02210 *                      | 01060 *              |
| 0 - 150                                                       | .008                                   | 02220 *                      | 01070 *              |
| 0 - 200                                                       | .008                                   | < >                          | 01080 *              |
| 0 - 250                                                       | .008                                   | 02240 *                      | 01090 *              |
| 0 - 300                                                       | .008                                   | < >                          | 01100 *              |
| 0 - 500                                                       | .008                                   | 02260 *                      | 01110 *              |
| < > Available on special order                                |                                        |                              |                      |
| * These meters require use of an external current transformer |                                        |                              |                      |

| <b>AC Voltmeters Iron Vane Movement</b>                                                             |                                        |                              |                      |
|-----------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|----------------------|
| Range                                                                                               | Approx.<br>Impedance<br>(Ohms) @ 60 Hz | Model / Size and Catalog No. |                      |
|                                                                                                     |                                        | 2 - 1/2"<br>Model 155        | 3 - 1/2"<br>Model 55 |
| 0 - 5                                                                                               | 33                                     | < >                          | 08410                |
| 0 - 10                                                                                              | 133                                    | < >                          | 08420                |
| 0 - 15                                                                                              | 300                                    | < >                          | 08430                |
| 0 - 25                                                                                              | 833                                    | < >                          | 08440                |
| 0 - 50                                                                                              | 3,333                                  | 09290                        | 08450                |
| 0 - 100                                                                                             | 16,166                                 | < >                          | 08460                |
| 0 - 150                                                                                             | 25,000                                 | 09310                        | 08470                |
| 0 - 250                                                                                             | 41,166                                 | 09320                        | 08480                |
| 0 - 300                                                                                             | 50,000                                 | 09330                        | 08490                |
| 0 - 500                                                                                             | 83,333                                 | 09340 *                      | 08500 *              |
| 0 - 750                                                                                             | 125,000                                | < >                          | 08510 *              |
| < > Available on special order                                                                      |                                        |                              |                      |
| * External multipliers (Model 183) are furnished on AC meters having a range of 500 volts or higher |                                        |                              |                      |

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### Ordering Information

| AC Voltmeter Rectifier Type Self-Shielding Movement |                                  |                              |
|-----------------------------------------------------|----------------------------------|------------------------------|
| Range                                               | Approx. Impedance (Ohms ) @ 60Hz | Model / Size and Catalog No. |
|                                                     |                                  | 3 - 1/2" Model 45            |
| 0 - 150                                             | 300K                             | 08010                        |

| 4-20mA Process Meters Dial indicates 0-100 Percent |                          |                              |
|----------------------------------------------------|--------------------------|------------------------------|
| Range                                              | Approx. Impedance (Ohms) | Model / Size and Catalog No. |
|                                                    |                          | 3 - 1/2" Model 25            |
| 4- 20                                              | 5.0                      | 35022                        |

| Wattmeters - Dynamometer Type |         |      | Not  |
|-------------------------------|---------|------|---------------------------------------------------------------------------------------|
| Range                         | Maximum |      | Model / Size and Catalog No.                                                          |
|                               | Volts   | Amps | 3 - 1/2" Model 75                                                                     |
| 0 - 300                       | 150     | 4.0  | 10600                                                                                 |

| Frequency Meters Self-Shielding Movement Not  |         |                              |                   |
|----------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------|-------------------|
| Range                                                                                                                            | Voltage | Model / Size and Catalog No. |                   |
|                                                                                                                                  |         | 2 - 1/2" Model 185           | 3 - 1/2" Model 85 |
| 45 - 55 Hz                                                                                                                       | 120V    | 35154                        | 35160             |
| 55 - 65 Hz                                                                                                                       | 120V    | 35156                        | 35162             |
| 380 - 420 Hz                                                                                                                     | 120V    | 35158                        | 35164             |
| 45 - 55 Hz                                                                                                                       | 240V    | 35155                        | 35161             |
| 55 - 65 Hz                                                                                                                       | 240V    | 35157                        | 35163             |
| 380 - 420 Hz                                                                                                                     | 240V    | 35159                        | 35165             |

| DC Microammeters Self-Shielding Movement |                                  |                              |                   |
|------------------------------------------|----------------------------------|------------------------------|-------------------|
| Range                                    | Approx. Impedance (Ohms ) @ 60Hz | Model / Size and Catalog No. |                   |
|                                          |                                  | 2 - 1/2" Model 125           | 3 - 1/2" Model 25 |
| 0 - 50                                   | 1800                             | 04210                        | 03760             |
| 0 - 100                                  | 1800                             | 04220                        | 03770             |
| 0 - 200                                  | 1100                             | 04230                        | 03780             |
| 0 - 500                                  | 90                               | 04240                        | 03790             |
| 50-0-50                                  | 1800                             | 04194                        | 03810             |
| 100-0-100                                | 1100                             | 04196                        | 03820             |
| 500-0-500                                | 43                               | < >                          | 03830             |
| < > Available on special order           |                                  |                              |                   |

### Ordering Information

| DC Taut-Band Microammeters Self-Shielding Movement |                                        |                              |                       |
|----------------------------------------------------|----------------------------------------|------------------------------|-----------------------|
| Range                                              | Approx.<br>Impedance<br>(Ohms ) @ 60Hz | Model / Size and Catalog No. |                       |
|                                                    |                                        | 2 - 1/2"<br>Model 125T       | 3 - 1/2"<br>Model 25T |
| 0 - 10                                             | 4900                                   | 04197                        | < >                   |
| 0 - 15                                             | 1960                                   | < >                          | 03741                 |
| 0 - 25                                             | 1960                                   | 04201                        | 03751                 |
| 0 - 50                                             | 960                                    | < >                          | 03761                 |
| 0 - 100                                            | 500                                    | < >                          | 03771                 |
| < > Available on special order                     |                                        |                              |                       |

| DC Milliammeters Self-Shielding Movement |                                        |                              |                      |
|------------------------------------------|----------------------------------------|------------------------------|----------------------|
| Range                                    | Approx.<br>Impedance<br>(Ohms ) @ 60Hz | Model / Size and Catalog No. |                      |
|                                          |                                        | 2 - 1/2"<br>Model 125        | 3 - 1/2"<br>Model 25 |
| 0 - 1                                    | 43.0                                   | 05580                        | 04610                |
| 0 - 1.5                                  | 43.0                                   | < >                          | 04620                |
| 0 - 5                                    | 2.0                                    | 05610                        | 04640                |
| 0 - 10                                   | 10.0                                   | 05620                        | 04650                |
| 0 - 15                                   | 6.6                                    | 05630                        | 04660                |
| 0 - 25                                   | 4.0                                    | 05650                        | 04680                |
| 0 - 50                                   | 2.0                                    | < >                          | 04690                |
| 0 - 75                                   | 1.3                                    | 05670                        | < >                  |
| 0 - 100                                  | 1.0                                    | 05680                        | 04710                |
| 0 - 150                                  | .66                                    | 05690                        | 04720                |
| 0 - 200                                  | .5                                     | 05700                        | 04730                |
| 0 - 250                                  | .5                                     | 05710                        | < >                  |
| 0 - 300                                  | .33                                    | < >                          | 04750                |
| 0 - 500                                  | .2                                     | 05730                        | 04760                |
| 0 - 1000                                 | .05                                    | < >                          | 04780                |
| < > Available on special order           |                                        |                              |                      |

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### Ordering Information

| DC Ammeters Self-Shielding Movement                                                                         |                                        |                              |                      |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|----------------------|
| Range                                                                                                       | Approx.<br>Impedance<br>(Ohms ) @ 60Hz | Model / Size and Catalog No. |                      |
|                                                                                                             |                                        | 2 - 1/2"<br>Model 125        | 3 - 1/2"<br>Model 25 |
| 0 - 1                                                                                                       | .050                                   | 01460                        | 00005                |
| 0 - 2                                                                                                       | .025                                   | < >                          | 00030                |
| 0 - 3                                                                                                       | .0166                                  | 01490                        | 00040                |
| 0 - 5                                                                                                       | .010                                   | 01500                        | 00050                |
| 0 - 10                                                                                                      | .005                                   | 01510                        | 00060                |
| 0 - 15                                                                                                      | .0033                                  | 01520                        | 00070                |
| 0 - 25                                                                                                      | .002                                   | 01530                        | 00080                |
| 0 - 30                                                                                                      | .0017                                  | 01540                        | 00090                |
| 0 - 50                                                                                                      | .001                                   | 01550                        | 00099                |
| 0 - 75                                                                                                      | 10.0                                   | 01560 *                      | 00110 *              |
| 0 - 100                                                                                                     | 10.0                                   | 01570 *                      | 00120 *              |
| 0 - 150                                                                                                     | 10.0                                   | 01580 *                      | 00130 *              |
| 0 - 200                                                                                                     | 10.0                                   | 01590 *                      | 00140 *              |
| 0 - 250                                                                                                     | 10.0                                   | < >                          | 00151 *              |
| 0 - 300                                                                                                     | 10.0                                   | 01610 *                      | 00160 *              |
| 0 - 500                                                                                                     | 10.0                                   | 01620                        | 00170 *              |
| 0 - 750                                                                                                     | 10.0                                   | < >                          | 00177 *              |
| 0 - 1000                                                                                                    | 10.0                                   | < >                          | 00188 *              |
| 15-0-15                                                                                                     | .0033                                  | < >                          | 00200                |
| 30-0-30                                                                                                     | .0017                                  | 01660                        | 00210                |
| 50-0-50                                                                                                     | .001                                   | 01670                        | 00220                |
| 75-0-75                                                                                                     | 20.0                                   | 35066                        | 35037 *              |
| * DC current meters are self-contained for ranges up to and including 50 amperes                            |                                        |                              |                      |
| Higher range DC current meters (50 mV) listed above are calibrated for 5' leads and require external shunts |                                        |                              |                      |
| < > Available on special order                                                                              |                                        |                              |                      |

## Round Style Analog Panel Meters

### Ordering Information

| DC Millivoltmeters Self-Shielding Movement |                                        |                              |                      |
|--------------------------------------------|----------------------------------------|------------------------------|----------------------|
| Range                                      | Approx.<br>Impedance<br>(Ohms ) @ 60Hz | Model / Size and Catalog No. |                      |
|                                            |                                        | 2 - 1/2"<br>Model 125        | 3 - 1/2"<br>Model 25 |
| 0 - 50                                     | 10.0                                   | 06970                        | 06910                |
| 0 - 100                                    | 20.0                                   | < >                          | 35093                |
| < > Available on special order             |                                        |                              |                      |

| DC Voltmeters    Self-Shielding Movement                                                 |                                        |                              |                      |
|------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|----------------------|
| Range                                                                                    | Approx.<br>Impedance<br>(Ohms ) @ 60Hz | Model / Size and Catalog No. |                      |
|                                                                                          |                                        | 2 - 1/2”<br>Model 125        | 3 - 1/2”<br>Model 25 |
| 0 - 1.5                                                                                  | 1000<br>Ohms<br>Per<br>Volt            | 08850                        | < >                  |
| 0 - 3                                                                                    |                                        | < >                          | 07070                |
| 0 - 5                                                                                    |                                        | 08870                        | 07080                |
| 0 - 10                                                                                   |                                        | 08890                        | 07100                |
| 0 - 15                                                                                   |                                        | 08900                        | 07110                |
| 0 - 25                                                                                   |                                        | 08910                        | 07120                |
| 0 - 30                                                                                   |                                        | 08920                        | 07130                |
| 0 - 50                                                                                   |                                        | 08930                        | 07140                |
| 0 - 100                                                                                  |                                        | 08940                        | 07150                |
| 0 - 150                                                                                  |                                        | 08950                        | 07160                |
| 0 - 200                                                                                  |                                        | 08960                        | 07170                |
| 0 - 250                                                                                  |                                        | 08970                        | 07180                |
| 0 - 300                                                                                  | 2000<br>Ohms<br>Per<br>Volt            | < >                          | 07190                |
| 0 - 500                                                                                  |                                        | < >                          | 07200                |
| 0 - 750                                                                                  |                                        | < >                          | 07210                |
| 0 - 1000                                                                                 |                                        | < >                          | 07220 *              |
| 0 - 2000                                                                                 |                                        | < >                          | 07240 *              |
| 0 - 3000                                                                                 |                                        | < >                          | 07260 *              |
| 0 - 5000                                                                                 |                                        | < >                          | 07280 *              |
| *External multipliers, Model 183, are furnished on 3-1/2” DC meters 1000 volts or higher |                                        |                              |                      |
| < > Available on special order                                                           |                                        |                              |                      |

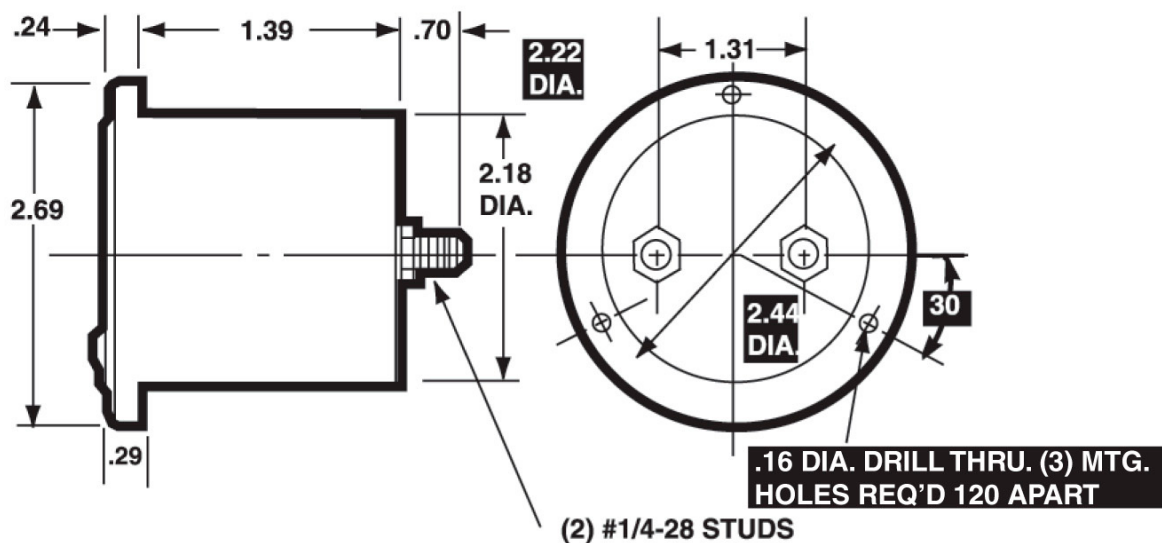
## Round Style Analog Panel Meters

| Specifications        |                                                                                                                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy              | ± 2% F.S. (Iron-Vane), ± 3 F.S. (Rectifier)                                                                                                                                                        |
| Frequency models      | 45-55Hz ±0.3Hz (120V-240V)<br>55-65Hz ±0.3Hz (120V-240V)<br>380-420Hz ±1.2Hz (120V-240V)                                                                                                           |
| Wattmeters            | +2% F.S.; Compensated Meters: +3% F.S.                                                                                                                                                             |
| Movement              | Models 55, 155: Iron-vane, magnetically damped<br>Models 45, 145: Annular, rectifier type<br>Models 85 & 185: small core magnet, self-shielding<br>Models 25, 27, 29, 125: Annular, self-shielding |
| Tracking              | ± 3%                                                                                                                                                                                               |
| Shielding             | Calibration is unaffected by magnetic field or panel mounting                                                                                                                                      |
| Response Time         | 1.5 seconds maximum                                                                                                                                                                                |
| Overload (1 sec.)     | 10 times F.S.                                                                                                                                                                                      |
| Overload (Continuous) | 1.5 times F.S.                                                                                                                                                                                     |
| Repeatability         | 2%                                                                                                                                                                                                 |
| Dial                  | Sharp clear scale. Each dial arc is calibrated to track the specific type of movement used                                                                                                         |
| Case                  | High density black plastic                                                                                                                                                                         |
| Resistance            | ± 15%                                                                                                                                                                                              |
| Operating Temperature | - 4°F to + 149°F (- 20°C to + 65°C)                                                                                                                                                                |
| Pointer               | Models 85 & 185: Knife edge, black finish<br>All others: Spade pointer with black matte finish                                                                                                     |
| Scale Length          | Model 155 & 185: 1.6" (40.6mm)<br>Models 125 & 145: 1.8" (45.7mm)<br>Model 55: 2.3" (58.4mm)<br>Models 25, 27, 45 & 85: 2.5" (63.5mm)<br>Model 29: 3.80" (96.5mm)                                  |
| Net Weight            | Models 55, 155 & 185: 5oz (0.14kg)<br>Models 85, 125, 145 & 45: 7oz (0.20kg)<br>Models 25 & 27: 8oz (.23kg)<br>Model 29: 11oz. (.31kg)                                                             |

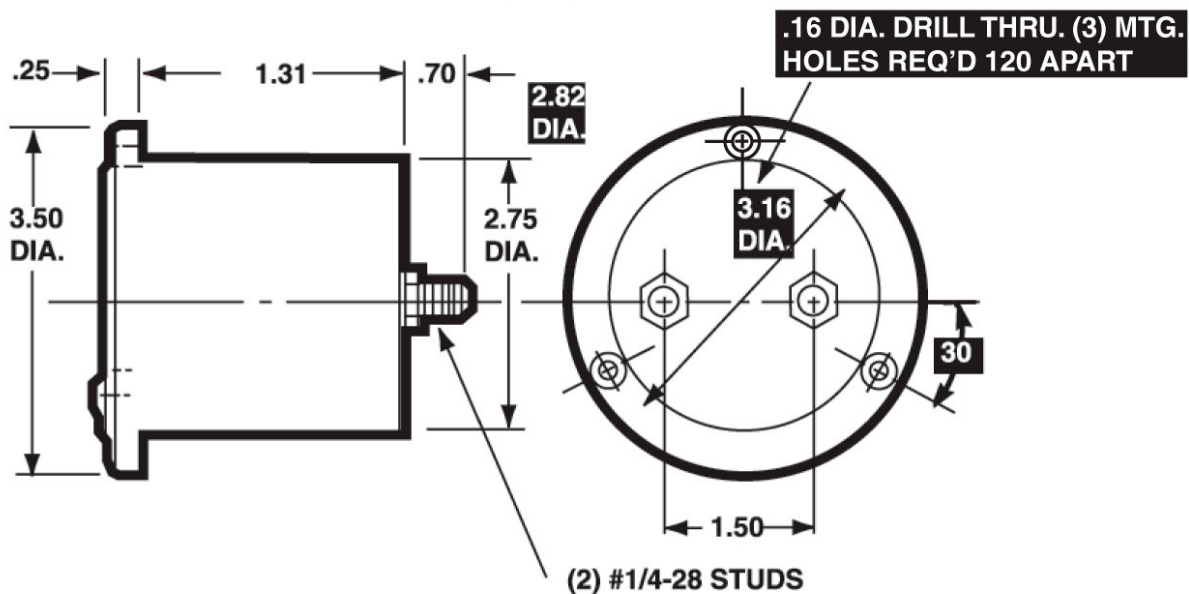
## Round Style Analog Panel Meters

### Dimensions

#### 2 - 1/2" Models 125, 125T, 145, 155 & 185



#### 3 - 1/2" Models 25, 25T, 55, 85 & Model 45 Process Meter



NOTE: "T" model suffix used for Taut-Band Movement



# Mouser Electronics

Authorized Distributor

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## Simpson:

|                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <a href="#">08420</a> | <a href="#">08480</a> | <a href="#">08460</a> | <a href="#">08500</a> | <a href="#">00177</a> | <a href="#">00130</a> | <a href="#">00110</a> | <a href="#">00151</a> | <a href="#">00120</a> | <a href="#">00170</a> | <a href="#">00140</a> | <a href="#">00188</a> | <a href="#">00160</a> | <a href="#">02150</a> | <a href="#">02190</a> |
| <a href="#">35164</a> | <a href="#">35162</a> | <a href="#">35157</a> | <a href="#">35156</a> | <a href="#">35165</a> | <a href="#">35158</a> | <a href="#">35160</a> | <a href="#">35163</a> | <a href="#">35155</a> | <a href="#">35161</a> | <a href="#">35159</a> | <a href="#">35154</a> | <a href="#">01610</a> | <a href="#">01670</a> | <a href="#">01620</a> |
| <a href="#">01660</a> | <a href="#">00050</a> | <a href="#">00005</a> | <a href="#">00030</a> | <a href="#">00080</a> | <a href="#">00070</a> | <a href="#">00060</a> | <a href="#">00040</a> | <a href="#">00099</a> | <a href="#">00090</a> | <a href="#">03432</a> | <a href="#">10600</a> | <a href="#">08910</a> | <a href="#">08950</a> | <a href="#">08970</a> |
| <a href="#">08930</a> | <a href="#">07140</a> | <a href="#">07100</a> | <a href="#">07160</a> | <a href="#">07120</a> | <a href="#">07180</a> | <a href="#">02200</a> | <a href="#">02240</a> | <a href="#">02220</a> | <a href="#">02260</a> | <a href="#">05430</a> | <a href="#">05410</a> | <a href="#">05400</a> | <a href="#">07070</a> | <a href="#">07080</a> |
| <a href="#">05420</a> | <a href="#">03810</a> | <a href="#">03830</a> | <a href="#">03820</a> | <a href="#">03751</a> | <a href="#">03790</a> | <a href="#">04620</a> | <a href="#">04660</a> | <a href="#">09310</a> | <a href="#">05670</a> | <a href="#">05630</a> | <a href="#">05690</a> | <a href="#">05680</a> | <a href="#">05610</a> | <a href="#">05650</a> |
| <a href="#">05620</a> | <a href="#">01110</a> | <a href="#">01100</a> | <a href="#">04080</a> | <a href="#">01500</a> | <a href="#">35022</a> | <a href="#">35066</a> | <a href="#">35069</a> | <a href="#">35093</a> | <a href="#">35037</a> | <a href="#">01520</a> | <a href="#">01550</a> | <a href="#">01510</a> | <a href="#">01590</a> | <a href="#">01560</a> |
| <a href="#">01540</a> | <a href="#">01570</a> | <a href="#">01530</a> | <a href="#">01580</a> | <a href="#">08410</a> | <a href="#">08450</a> | <a href="#">08490</a> | <a href="#">08430</a> | <a href="#">06080</a> | <a href="#">08440</a> |                       |                       |                       |                       |                       |