



Settle down.

MEMORANDUM

DATE: September 26, 2014

SUBJECT: Residential Meter Types

Meter Types:

For Residential electricity metering in the Grand Forks electric service area there are currently two main types of meters used;

C1SR: These meters are used mainly on single family residential applications,

CN1SR: These meters are used mainly in apartment and strata developments

RF Transmitter Types:

The meters use an R300 personality module to communicate with the meter reading device. The R300 modules used in Grand Forks come in two variants R300 HP (SK9C1A-3) and R300 LP (SK9C1A-2). The RF transmitter characteristics are summarized as follows (source ITRON);

Meter Type	CENTRON Smart Meter	CENTRON C1SR (CN1SR)	CENTRON C1SR (CN1SR)
Personality Module	-	R300 HP	R300 LP
FCC ID	SK9AM17	SK9C1A-3	SK9C1A-2
Used in Grand Forks Electric	No	Yes	Yes
Broadcast Frequency	902 – 928 MHz	902 – 928 MHz	902 – 928 MHz
Transmit Power	304.09 milliwatts	147 milliwatts	23 milliwatts
Transmit Repeat Rate	-	30 Seconds	2 Seconds
Transmit Duration	-	47 mS (IDM) + 5.86 mS (SCM)	47 mS (IDM) + 5.86 mS (SCM)
Percentage of Time Transmitting	-	$\frac{52.86 \text{ mS}}{30 \text{ S}} = 0.176\%$	$\frac{52.86 \text{ mS}}{2 \text{ S}} = 2.64\%$

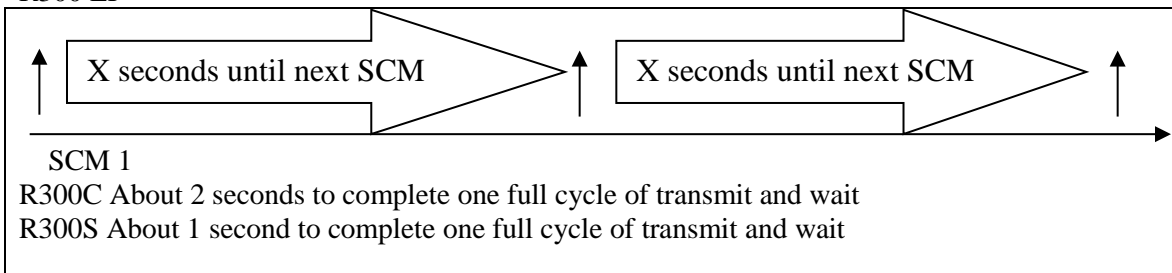


MEMORANDUM

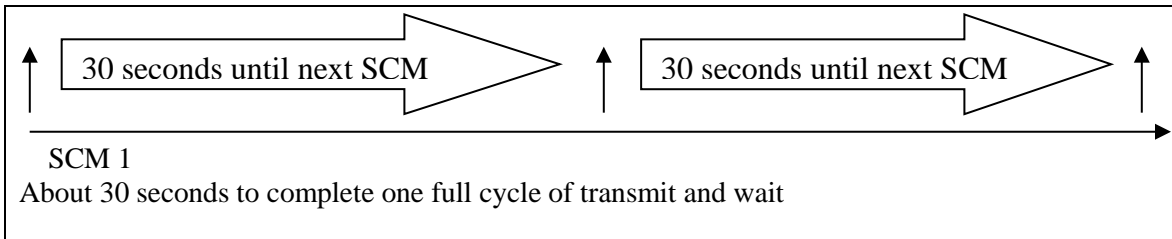
R300 Bubble-up Patterns (source ITRON)

C = CENTRON, S = SENTINEL

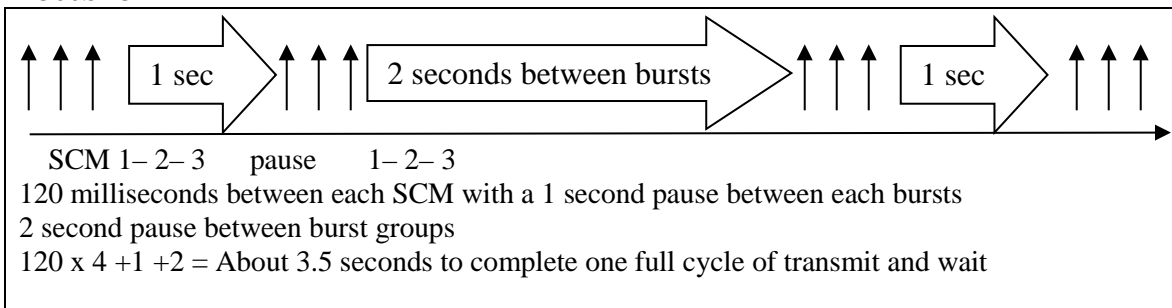
R300 LP



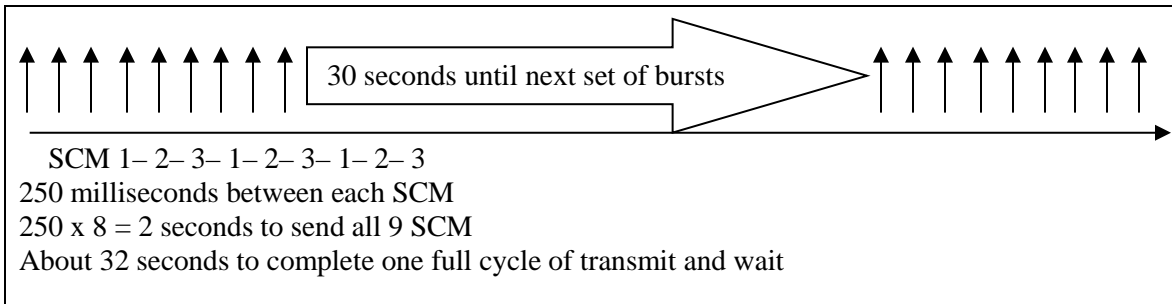
R300 HP



R300SD3 LP



R300CD3 HP

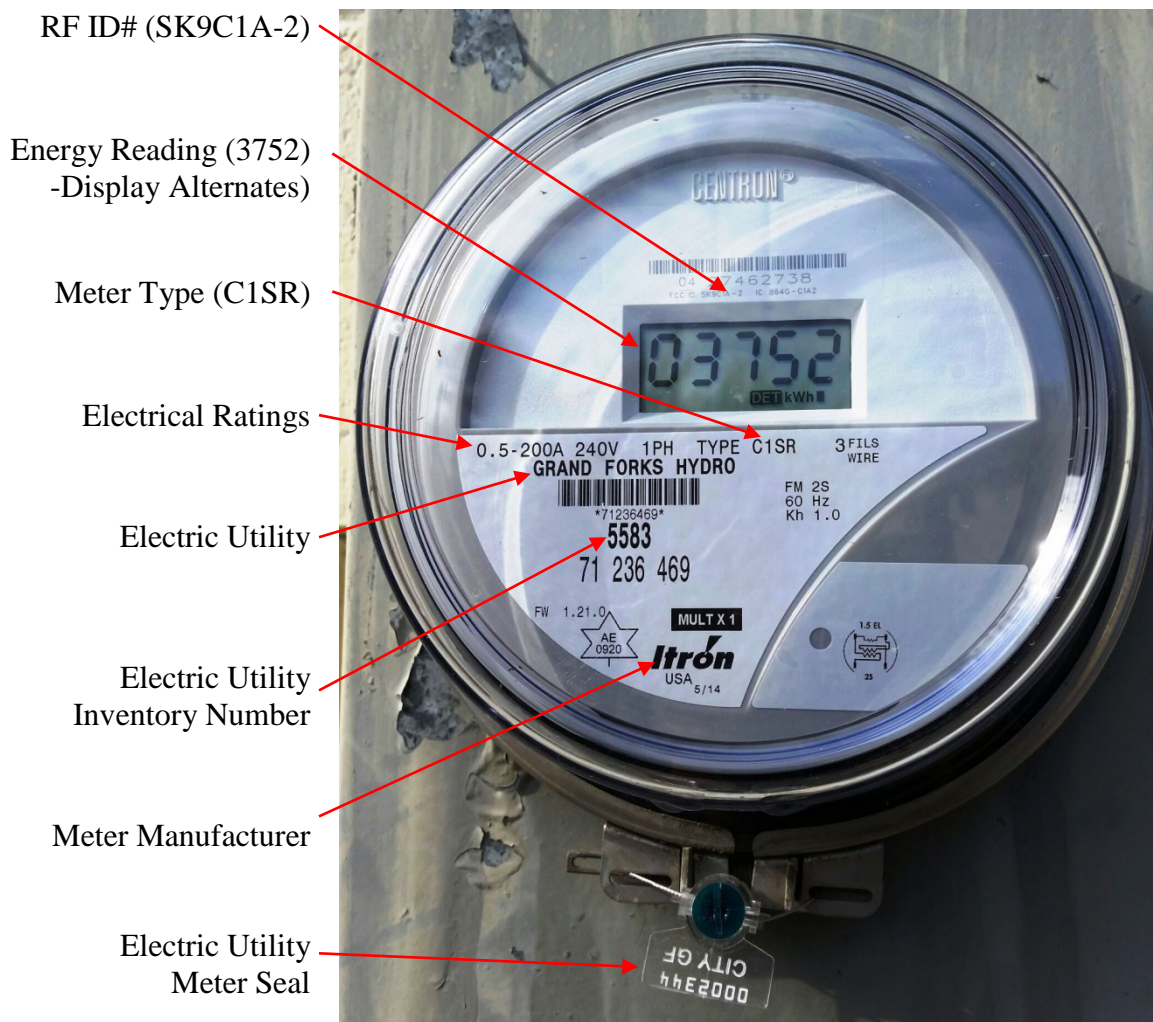




MEMORANDUM

Identifying Meter Nameplate Data:

A typical meter faceplate from Grand Forks Electrical is shown below. CN1SR meters are similar.



Attachments:

- 1) ITRON CENTRON C1SR R300 Personality Module
- 2) ITRON CENTRON CN1S Meter Data Sheet
- 3) ITRON CENTRON C1SR Meter Brochure