

Original Innovation

CADEL®
AN ISO 9001:2000 COMPANY

Digital Demand Analyzers, Incoming Managers & Generator Monitors



- User selectable **Billing Cycle** facility to synchronize with **EB** billing cycle (*Auto & Manual* billing cycle modes)
- Synchronous recording of **Maximum Demand** with date and time of occurrence, **Average PF** and **Energy Consumption** for previous billing cycle
- **Demand Utilization Index (DUI)** synchronized to billing cycle provides value info!
- **Low battery** warning ensures safe use of the product in a critical application
- User selectable demand integration parameter (**W** or **VA**)
- Demand data retention during demand interval **even if auxiliary supply fails**
- **Built-in Relay Output** ensures facility to trip on **Target Demand** being reached
- Upto 2 additional independently programmable 10 A Relay Outputs provide advance annunciation based on **Minutes to Trip** or **% of Target Demand** reached
- Unique freely **user settable** % of Target Demand provision for external relays
- Display of **Current Demand**, **Elapsed Minutes**, **Minutes-to-trip** and **Excess / Spare Load** allows correct & timely user action optionally for demand control
- **9 digit Energy** reading practically eliminates roll-over of reading
- User selectable display grouping (Electrical / Demand / All parameters)
- Automatic scaling for Kilo and Mega units with automatic decimal placement

PRODUCT SELECTION CHART

Sl.	Description	RS-485 Port	Model	Parameters / Functions	Typical Application
1.	Demand Analyzer	✓	CD 765	V, I, Hz, W, VA, VAR, PF, APF, WH, VAH, VARH, Current Demand, Elapsed Minutes, Minutes to Trip, Excess / Spare Load, Maximum Demand, Target Demand	Demand Control & Management in large/medium factories, etc.
2.		-	CD 675		
3.	Demand Manager	✓	CD 763	V, I, Hz, W, VA, VAR, PF, APF, WH, VAH, VARH, Current Demand, Elapsed Minutes, Maximum Demand, Target Demand	Demand Control & Management in medium factories, etc.
4.		-	CD 673		
5.	Demand Controller	✓	CD 761	V, I, Hz, W, VA, VAR, PF, APF, WH, VAH, VARH, Maximum Demand, Target Demand	Basic Demand Control
6.		-	CD 671		
7.	Incoming Manager	✓	CD 781	V, I, Hz, W, VA, VAR, PF, APF, WH, VAH, VARH, Maximum Demand	Trivector Metering and Maximum Demand Monitoring
8.		-	CD 681		
9.	Generator Monitor	✓	CD 767	V, I, Hz, W, VA, VAR, PF, APF, WH, VAH, VARH, Run Hours, Overload (times), Peak Load, Low Run Hours, Low Energy, High Run Hours, High Energy	Generator Monitoring & Management
10.	Remote Relay Unit	-	CD 965		With 765 / 675 / 763 / 673

DEMAND MANAGEMENT PRODUCTS - FEATURE COMPARISON

Sl.	Feature	765	675	763	673	761	671	781	681
1.	Demand Parameters: A) CD / EI Mn / Mi Trp / Ex Sp Ld / MD / TD B) CD / EI Mn / MD / TD C) MD / TD	A	A	B	B	C	C	A	A
2.	Billing Cycle Selection: A. Auto or User B. Auto	A	A	B	B	-	-	B	B
3.	Demand Utilisation Index: DUI AVG, DUI MD	✓	✓	✓	✓	-	-	✓	✓
4.	Basis for computation: W or VA	✓	✓	✓	✓	✓	✓	✓	✓
5.	No. of Relays: A) 1 + 2 (+ User % Tgt), B) 1 + 2, C) 1.	A	A	B	B	C	C	-	-
6.	Display View Group (SPG): Electrical / Demand / All	✓	✓	-	-	-	-	-	-
7.	Previous billing cycle: A) MD, APF, KWH Consumption B) MD, APF	A	A	B	B	-	-	B	B
8.	Demand Interval: 30 min OR 15 min (fixed, factory set)	✓	✓	✓	✓	✓	✓	✓	✓
9.	Low Battery Indication	✓	✓	✓	✓	✓	✓	✓	✓
10.	9 - digit LED Energy display (WH and VAH)	✓	✓	✓	✓	✓	✓	✓	✓
11.	RTC (battery backed)	✓	✓	✓	✓	✓	✓	✓	✓

CD = Current Demand, EI Mn = Elapsed Minutes, Mi Trp = Minutes to Trip, Ex/Sp Ld = Excess/Spare Load, MD = Maximum Demand, TD = Target Demand

LEGEND: A/B/C = refer Feature, ✓ = Available, - = Not Available

THE IDEA

The **CD 765** and **CD 675** are state-of-the art Digital Electrical Demand Analyzers. Housed in a 96 x 96 mm bezel size casing, these are the smallest and most advanced such products in the market today and offer many first time features like:

User synchronized **Billing cycle**.
Displays **Current Demand, Elapsed Minutes, Minutes to Trip, Excess / Spare Load, Maximum Demand & Target Demand**. Informs **when** Target Demand is likely to be exceeded & **how much** load is to be shed to avoid this. **Demand Utilization Index (DUI)**.

Power Supply Interruption recording.

Intelligent parameter display grouping.

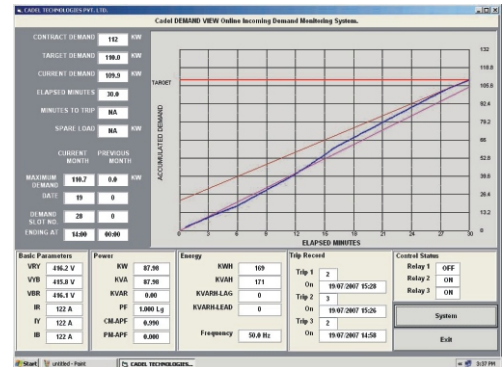
Predictive demand monitoring.

Old **Maximum Demand, Average PF & Energy Consumption.**

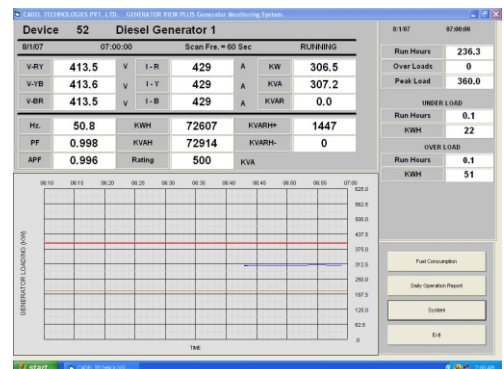
Last three relay trip records with relay identification & trip time.

These advanced features deliver not just demand control but also empower users to systematically move towards objective management of Electrical Demand.

The value of these products is superbly enhanced by the graphical software "**CADEL DEMAND VIEW PLUS (CS D01)**" that displays all the information in the Demand Analyzer plus running demand curve (another first time feature) in a single screen on a standard desktop PC. Combined with user-centric features like simple product configuration, clear display of electrical and demand parameters, reduced keyboard, automatic resolution selection, etc., these products deliver exceptionally high value for users interested in electrical demand management rather than mere demand control.



CADEL DEMAND VIEW PLUS CS D01



CADEL GENVIEW PLUS CS G01

To use **CADEL DEMAND VIEW PLUS CS D01** and/or **CADEL GENVIEW PLUS CS G01** (ready to run software), a PC loaded with Windows XP Professional OS along with UPS supply is required additionally. RS-485 Data Cable, RS-485 to RS-232 Data Converter and RS-232 PC Cable are required for connecting the Demand Analyzer and Generator Monitor to the PC.

TECHNICAL SPECIFICATIONS

CONFIGURATION : 3 Phase, 3 Element; 3 / 4 Wire selectable from Rear Panel

INPUT VOLTAGE : Factory Set

Nominal : 415 V or 110 V through PT (line to line)

Range : 80% to 120% of Nominal

INPUT CURRENT : Factory Set (see Product Chart)

Nominal : 5 A or 1A through CT

Range : 1% to 120% of Nominal

INPUT PF RANGE : 0.5 Lag to Unity to 0.5 Lead

COMPUTATION : True RMS for all Power and Energy Parameters

ACCURACY : ± [(0.5% of FS+ 0.5% of Reading) + 1 digit]

± 0.2% for Frequency

± 1% of FS for Current

± (1% of FS+ 1 digit) for Power Factor

± 100 ppm for Time

RESOLUTION :

Volt / Amp : Autoscaled depending on the input

Frequency : 0.1 Hz

Power : Autoscaled depending on the input

Power Factor : 0.01

Demand : Autoscaled depending on input

Energy : 1 kWh upto 866 kW

10 kWh above 866 kW, below 8666 kW

100 kWh above 8666 kW

DEMAND

Interval : 15 Minutes or 30 Minutes (factory set)

CONTROL RELAYS : 1 No built-in + upto 2 relays extra optional through Remote Relay Unit CD 965

Type : NO

Rating (Built-in) : 230 V AC / 24 V DC, 2A
(CD 965) : 230 V AC / 12 V DC, 10 A

SERIAL PORT : RS-485 MODBUS RTU

Baud Rate : User selectable (1200, 2400, 4800, 9600, 19200)

Configuration : 3 wire configuration (recommended)

DISPLAY : 12.5 mm, 7 segment, super-bright LEDs

AUX SUPPLY : 85 - 150 V AC or DC / 150 - 270 V AC or DC

BURDEN : 0.1 VA typical per Voltage / Current input, 3 VA max. on Aux. Supply

AMBIENT : Temp. 0-50 deg C, Humidity < 95% non-condensing

WEIGHT : Demand Manager - 420 gms (approx)

Remote Relay Unit - 180 gms (approx)

DIMENSIONS : Demand Manager - 96 x 96 mm (Bezel) x 91 mm

Remote Relay Unit - 96 x 48 mm (Bezel) x 76 mm

PANEL CUTOUT : (90⁺¹₋₀) mm x (90⁺¹₋₀) mm

MOUNTING : Slide and Lock clamp

WARRANTY : 15 months from date of manufacture OR 12 months from date of sale, whichever is earlier

Product improvements may result in changes in the product specifications without notice.

Accuracy Class 0.5 also available

Authorised Dealer

DmdGen Issue 0408

Designed, Manufactured and Marketed by

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