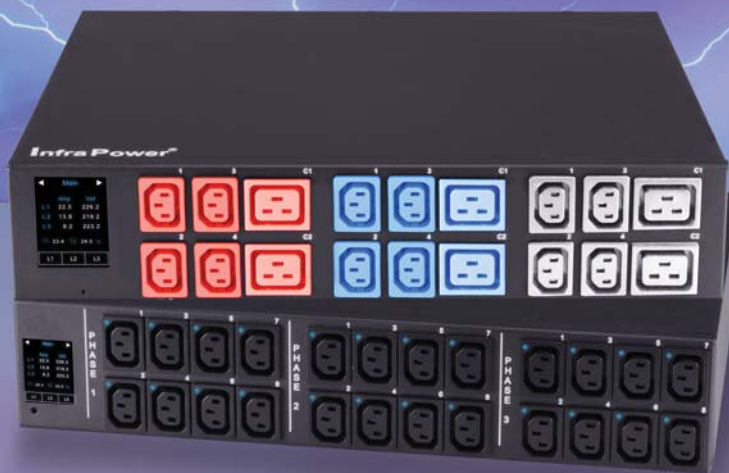# Infra Power®

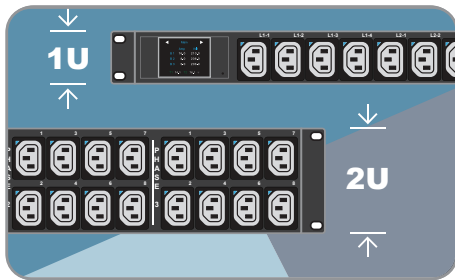## 3-Phase Intelligent Rackmount PDU
208V / 400V

Smarter Design • Faster Delivery • Better Performance

AUSTIN® HUGHES

Power Efficiency Management

With today's increasing demand for high technology power management solutions, PDU kWh measurement and the associated software allow data center managers to make key decisions regarding the most efficient use of power. The need to maximize power efficiency to reduce cost is high up the corporate agenda. For 24x7x365 operation, a small increase in efficiency can result in major savings in running cost. **W series** PDUs provide the kWh measurement for an effective planning on the power capacity. Models with outlet level kWh measurement are also available.

▶ 1U / 2U Rackmount

Typical PDUs can be mounted either vertically (0U) or horizontally (1U-2U) inside the rack.
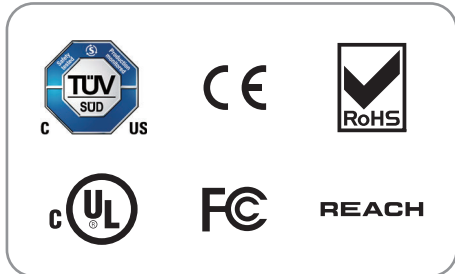However, most PDU companies focus on 0U PDUs, whilst the choices are limited for 1U / 2U rackmount PDUs. InfraPower offers a wide range of rackmount PDU in order to meet the market needs.

▶ Quality PDUs in Short Lead Time

Austin Hughes designs highly reliable intelligent PDUs in efficient production, assembly and inventory process. Every InfraPower PDU unit is 100% tested before shipment. All these efforts allow us to deliver quality PDUs to customers in the shortest lead time.

▶ Compliance Approval

Our dedicated PDU compliance team ensures conformance to safety & reliability standard in US, EMEA & APAC.

▶ High Metering Accuracy

The sharp and highly visible display of the 1.8" color LCD provides local data of current (AMP), voltage (Volt), power (KW), energy consumption (KWh), power factor of entire PDU. This data has a metering accuracy to within +/- 1%.

▶ Circuit Protection

Safety operation is essential for your data center and server room. InfraPower 3-Phase PDU offers Resettable Fuse or Hydraulic MCB to protect the PDU circuit from current overload.

4 Intelligent PDU Series

Circuit Monitoring **W**

WS Outlet Switching Circuit Monitoring

Outlet & Circuit Monitoring **Wi**

WSi Outlet Switching Outlet & Circuit Monitoring

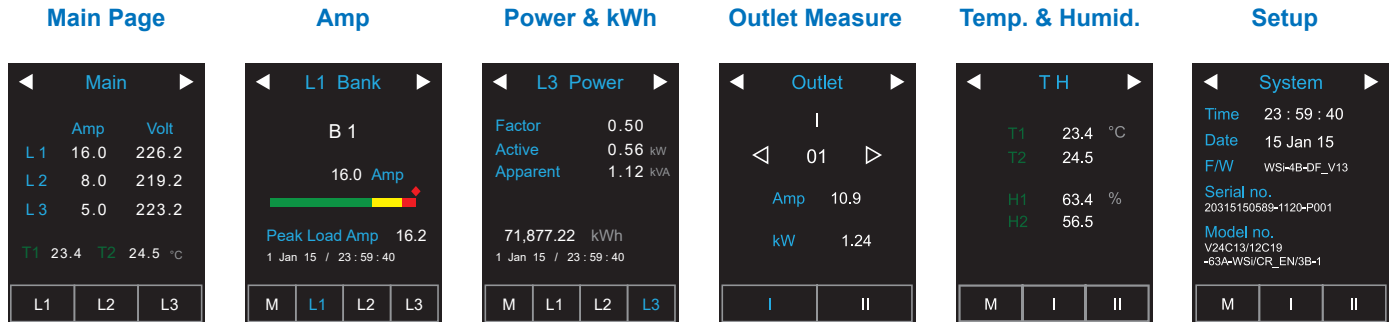| **W** Intelligent PDU series	Monitored		Switched	
	W	**Wi**	**WS**	**WSi**
Outlet Level Measurement Over IP		✔		✔
Outlet Switch ON / OFF			✔	✔
Circuit / Phase Amp - kWh Measurement	✔	✔	✔	✔
Billing Grade Meter Accuracy Within +/- 1%	✔	✔	✔	✔
2" Color LCD w/ Touchscreen	✔	✔	✔	✔
32 / 16 Daisy Chained PDUs Supported on 1 IP	✔	✔	✔	✔
Free Management Software	✔	✔	✔	✔
SNMP Capability v2 / v3	✔	✔	✔	✔
Phase Balance %	✔	✔	✔	✔
Temp., Humidity, Smoke & Door Sensors	✔	✔	✔	✔
RCM (Residual Current Monitoring Module)	✔	✔	✔	✔
Door Mount PDU Panel w/ 4.3" Color LCD	✔	✔	✔	✔
Wifi Kit (Supports Max. 32 Daisy Chained PDUs)	✔	✔	✔	✔
Local Meter	✔	✔	✔	✔
Hydraulic Magnetic Circuit Breaker	✔	✔	✔	✔
ELCR / Surge Protector / EMI Filter	✔	✔	✔	✔
1U / 2U Form Factors	✔	✔	✔	✔
Operating Temperature Range -5 to 60°C	✔	✔	✔	✔
Voltage 400V / 208V	✔	✔	✔	✔
Outlet : US NEMA / C13 / C19	✔	✔	✔	✔
Lockable IEC	✔	✔	✔	✔
Fused IEC	✔	✔	✔	✔

Sophisticated Meter

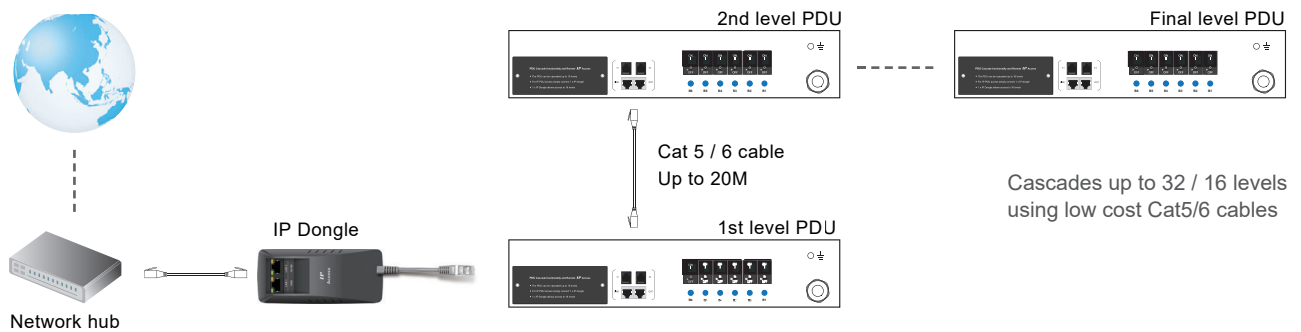## Sophisticated W Meter with Touchscreen LCD

The color LCD with touchscreen provides a sharp and highly visible display of kWh, kW, Power Factor, Volt, Amp, Temperature and Humidity.

Apart from monitoring, user can also set up the PDU daisy chain levels via the touchscreen LCD.

Main Page

	Main	
	Amp	Volt
L 1	16.0	226.2
L 2	8.0	219.2
L 3	5.0	223.2
T1 23.4	T2 24.5 °C	
L1	L2	L3

Amp

	L1 Bank	
	B 1	
	16.0 Amp	
Peak Load Amp	16.2	
1 Jan 15 / 23 : 59 : 40		
M	L1 L2 L3	

Power & kWh

	L3 Power	
Factor	0.50	
Active	0.56 kW	
Apparent	1.12 kVA	
71,877.22	kWh	
1 Jan 15 / 23 : 59 : 40		
M	L1 L2 L3	

Outlet Measure

	Outlet	
	I	
◁	01	▷
Amp	10.9	
kW	1.24	
I	II	

Temp. & Humid.

	T H	
T1	23.4	°C
T2	24.5	
H1	63.4	%
H2	56.5	
M	I	II

Setup

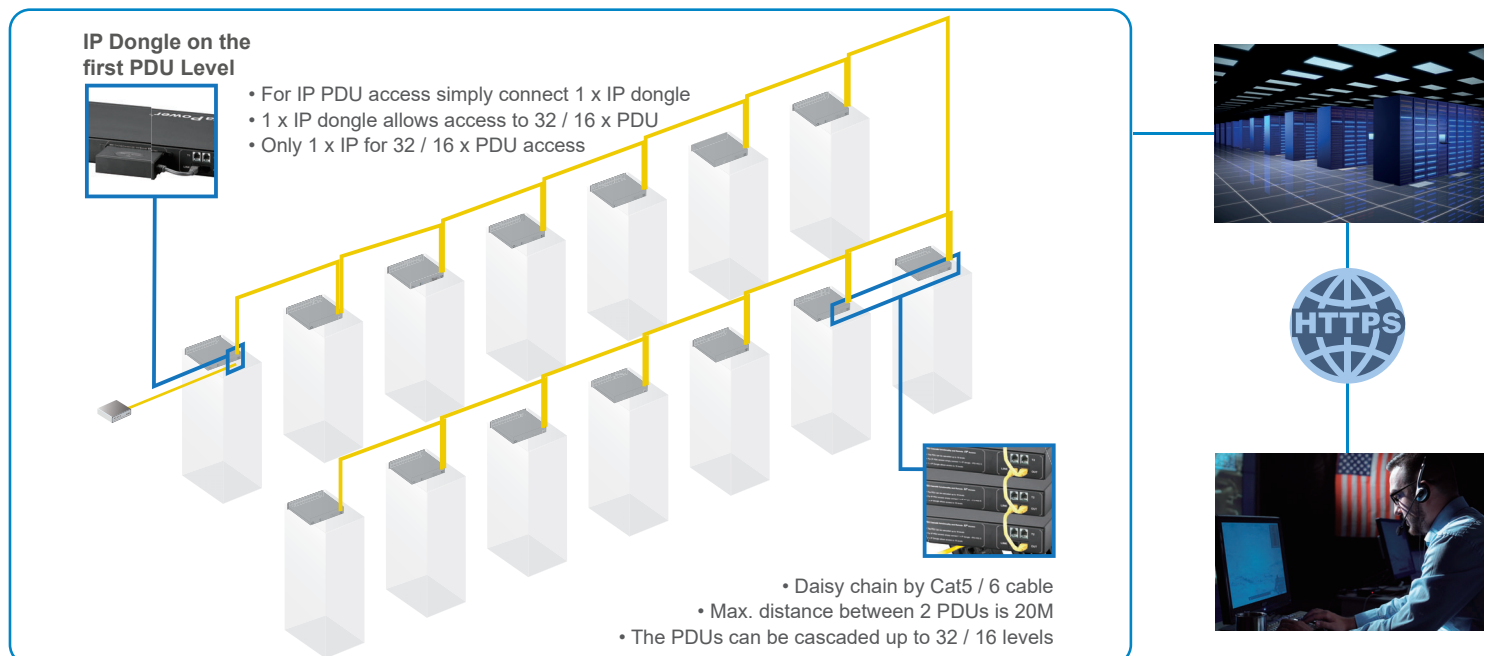|	System	
Time	23 : 59 : 40	
Date	15 Jan 15	
F/W	WSi-4B-DF_V13	
Serial no.	20315150589-1120-P001	
Model no.	V24C13/12C19 -63A-WSI/CR_EN/3B-1	
M	I	II

Daisy Chain Cascades

InfraPower rackmount intelligent PDU provides connection ports for the PDU daisy chain. For daisy chain connection, each PDU just simply to be connected in series to the next by Cat5/6 cables. Maximum 32 / 16 PDUs are supported in one daisy chain group.

2nd level PDU

Final level PDU

Cat 5 / 6 cable
Up to 20M

1st level PDU

Cascades up to 32 / 16 levels using low cost Cat5/6 cables

IP Dongle

Network hub

High Efficiency PDU Remote Management

Patented IP Dongle provides IP remote access to the PDUs by a true network IP address chain. Only one network IP is required for max. 32 / 16 PDUs in a single daisy chain. InfraPower offers 3 kinds of remote management solutions for users' selection.

Management Software IPM-04, Web-based GUI, or 3rd Party DCIM via SNMP. The free but comprehensive IPM-04 supports up to 50 IP groups. Hence, max 1600 / 800 PDUs can be remotely managed from anywhere.

IP Dongle on the first PDU Level

- For IP PDU access simply connect 1 x IP dongle
- 1 x IP dongle allows access to 32 / 16 x PDU
- Only 1 x IP for 32 / 16 x PDU access

- Daisy chain by Cat5 / 6 cable
- Max. distance between 2 PDUs is 20M
- The PDUs can be cascaded up to 32 / 16 levels

HTTPS

Remote Management Over IP

PDU remote management helps reducing manpower and hence improving uptime and productivity. It also benefits users with capacity planning and increasing the overall efficiency of the data center. InfraPower intelligent PDU offers 3 kinds of remote management solutions for users' selection.

InfraPower® IPM-04 — Free Download

InfraPower® GUI — Built-in

3rd Party DCIM — via SNMP

Free Management Software IPM-04

InfraPower Manager IPM-04 is the free, powerful and user friendly PDU management software provided with W Series PDUs.

The Administrator can remotely manage the PDUs and the temperature / humidity sensors via the web browser. The Windows based software consolidates management of max. 800 single & three phase PDUs via 50 IP dongles. 5 concurrent user access licences are part of the IPM-04 bundle, for achieving the demand of multi-user requirements in data center operations.

IPM-04 provides complete PDU monitoring / control and reporting functions for your data center.

Web-based GUI

A web-based GUI is integrated with our intelligent PDU. It is ideal for some users who simply require the power monitoring and input switching over IP.

3rd Party DCIM via SNMP

Nowadays, many data centers apply the DCIM (Data Center Infrastructure Management) in order to centralize the management for monitoring power, cooling and environmental factors across facilities and IT systems. InfraPower intelligent PDU supports SNMP integration and hence user can remotely manage the PDU via their DCIM.

Features		
Capacity	IP Dongle Group (Just 1 for 32 / 16 PDU levels)	50
	PDU Number	1600 / 800
	Concurrent Users	5
Features	Outlet Level kWh & Amp Measurement	✔
	Circuit Level kWh & Amp Monitoring	✔
	Apparent Power (kVA) Monitoring	✔
	Power Factor Measurement	✔
	Circuit Breaker (MCB) Monitoring	✔
	Temp-Humid Monitoring	✔
	Individual Outlet Switch ON / OFF	✔
	Outlet Scheduling	✔
	Alarm Threshold Setting	✔
	Rising Alert Threshold	✔
	Remote Access via Web	✔
	Graphic User Interface	✔
	Reporting	✔
PDU Series Support	3-Phase W - Monitored PDU	✔
	3-Phase WI - Monitored PDU (Outlet Measurement)	✔
	3-Phase WS - Switched PDU	✔
	3-Phase WSI - Switched PDU (Outlet Measurement)	✔

PDU Monitoring

Temp. & Humid. Monitoring

Reporting

3-Phase Intelligent PDU Series

W PDU - Circuit Monitoring

Outlet nos		400V - 16A / 32A 208V - 20A / 30A	Rack U
C13	C19		
18	6	HP18C13 / 6C19-W	2U
12	6	HP12C13 / 6C19-W	2U
6	3	HP6C13 / 3C19-W	1U
24		HP24C13-W	2U
18		HP18C13-W	2U
12		HP12C13-W	1U
	12	HP12C19-W	2U
	9	HP9C19-W	1U
NEMA		208V - 20A / 30A	
	24	HP24US-W	2U
	18	HP18US-W	2U
	12	HP12US-W	1U

WS PDU - Outlet Switching + Circuit Monitoring

Outlet nos		400V - 16A / 32A 208V - 20A / 30A	Rack U
C13	C19		
18	6	HP18C13 / 6C19-WS	2U
12	6	HP12C13 / 6C19-WS	2U
6	3	HP6C13 / 3C19-WS	1U
24		HP24C13-WS	2U
18		HP18C13-WS	2U
12		HP12C13-WS	1U
	12	HP12C19-WS	2U
	9	HP9C19-WS	1U
NEMA		208V - 20A / 30A	
	24	HP24US-WS	2U
	18	HP18US-WS	2U
	12	HP12US-WS	1U

Wi PDU - Outlet & Circuit Monitoring

Outlet nos		400V - 16A / 32A 208V - 20A / 30A	Rack U
C13	C19		
18	6	HP18C13 / 6C19-Wi	2U
12	6	HP12C13 / 6C19-Wi	2U
6	3	HP6C13 / 3C19-Wi	1U
24		HP24C13-Wi	2U
18		HP18C13-Wi	2U
12		HP12C13-Wi	1U
	12	HP12C19-Wi	2U
	9	HP9C19-Wi	1U
NEMA		208V - 20A / 30A	
	24	HP24US-Wi	2U
	18	HP18US-Wi	2U
	12	HP12US-Wi	1U

WSi PDU - Outlet Switching + Outlet & Circuit Monitoring

Outlet nos		400V - 16A / 32A 208V - 20A / 30A	Rack U
C13	C19		
18	6	HP18C13 / 6C19-WSi	2U
12	6	HP12C13 / 6C19-WSi	2U
6	3	HP6C13 / 3C19-WSi	1U
24		HP24C13-WSi	2U
18		HP18C13-WSi	2U
12		HP12C13-WSi	1U
	12	HP12C19-WSi	2U
	9	HP9C19-WSi	1U
NEMA		208V - 20A / 30A	
	24	HP24US-WSi	2U
	18	HP18US-WSi	2U
	12	HP12US-WSi	1U

208V PDU

Inlet		Amp	Cordset	
			AWG	length
60309		60A	6	6.6 FT
CS8365C		50A	6	6.6 FT
L15-30P	L21-30P	30A	10	6.6 FT
L15-20P	L21-20P	20A	12	6.6 FT

Outlet	Standard	Lockable (option)	Individually Fused (option)
C13			
C19			
US Nema			

400V PDU

Inlet	Amp	Cordset	
		mm²	length
60309	63A	10	2 M
60309	32A	4	2 M
60309	16A	1.5	2 M

Outlet	Standard	Lockable (option)	Individually Fused (option)
C13			
C19			

IP Access Devices

IP Dongle

IPD-02-S / IPD-H02-S

- US & worldwide patents
- Hot pluggable
- Allows IP remote access
- Supports up to 16 daisy chained PDUs
- Saves cost on IP addresses
- SNMP capability v2/v3

Dual Lan IP Dongle

IPD-03-S

- US & worldwide patents
- Supports 10/100 & gigabit LAN ethernet
- Dual LAN network failover
- Capability to access two separate networks
- Supports up to 32 daisy chained PDUs
- Saves cost on IP addresses
- SNMP capability v2/v3
- Simultaneous software applications - IPM-04, Built-in GUI & SNMP
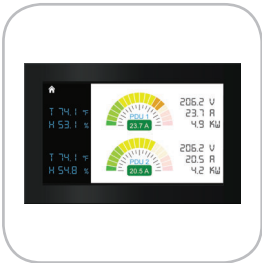
Details

Optional Wifi Kit
IPD-WIFI

Sensors & Peripherals

4.3" Door Mount PDU Panel

IP-ED-01

- 4.3" color LCD touchscreen
- Supports two 1-phase or 3-phase PDUs
- Connect two PDU meters to display power, sensor status
- Enhance racks with information display
- No damage required to doors
- Plug & play

Details

Temp. & Humid. Sensor
Temp. Sensor

IG-TH01-2M/4M
IG-T01-2M/4M

- Plug & play
- External sensor with 2M or 4M cord
- Low profile design with magnetic base for easy affixing to the rack

Smoke Sensor

IP-S01-1M / 3M

- Smoke Sensor w/ 1M or 3M cord
- When smoke alarm triggers, sensor red LED lights on with beep sound continuously

Door Sensor

IP-DSW-2M/4M

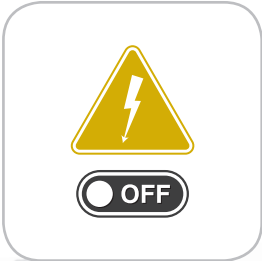- Mechanical door sensor w/ 2M or 4M cord
- Cost efficient integration into rack

Safety Devices

ELCB

- Earth-leakage circuit breaker
- Safety component for systems with high earth impedance to prevent shock
- Interrupts the circuit if a dangerous voltage is detected

RCM

- Residual current monitoring
- Alerts users to current leaking from IT devices
- Reduces the danger for both the user and IT system

EMI Filter

- Maintains power stability
- Suppresses conducted interference on a signal/power line

SPT

- Surge protector
- Enhances device protection
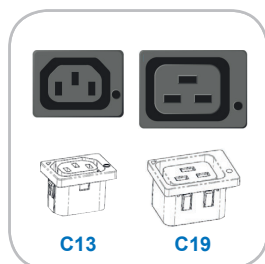- Grounds unwanted voltages above the safe threshold

Outlets

Lockable IEC Outlet

- Lockable IEC outlet PDU models are available to secure plugs and prevent accidental disconnection
- Supports standard or switched outlets
- Compatible with InfraPower lockable IEC power cords for outlet locking features

Details

C13 **C19**

Fused IEC Outlet

- Prevent overload of the active equipment
- Avoid short circuiting of the entire PDU
- 10A Rated C13 outlet w/ 5A glass fuse
- 16A Rated C19 outlet w/ 10A glass fuse

Colored IEC Outlet

- Colored C13 & C19 outlets help visualize the power connections of IT devices to facilitate power distribution management
- Standard color: Black
  Optional color: Red, Blue, White

  * Optional colored outlets for W & Wi only

Power Cords

Lockable IEC Cable

- Connect to InfraPower lockable IEC outlets to secure plugs and prevent accidental disconnection
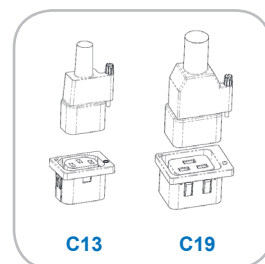- Selection:
  Black / Grey / Red / Blue / Orange / Green
  C14 - C13: 0.5M / 1M / 2M
  C20 - C19: 0.5M / 1M

Details

C13 **C19**

Colored UK Power Cord

- Enhance cable management and visualize power sources
- Selection:
  Blue / Red
  UK - C13 (0.75 mm²): 3ft / 6ft

Colored IEC Power Cord

- Enhance cable management and visualize power sources
- Selection:
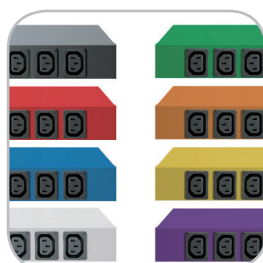 **C13 - C14 (1.0 mm²)**: 6ft / 10ft
  Blue / Red / Orange / Light Grey
  C19 - C20 (1.5 mm²): 6ft
  Blue/Red

Colored PDU Chassis

- Colored PDU chassis allow easy identification of power paths and simplifies management of power sources
- Standard color: Black
  Optional color: Red, Blue
  Green, Orange
  Purple, Yellow, White

Austin Hughes has an extensive distribution network, including EMEA, the Americas, ASEAN & APAC.

Contact your nearest sales office for details of local presentation.

Sales Inquiry
inquiry@austin-hughes.com

Technical Support
support@austin-hughes.com