AMPCONTROL®

SMART ISOLATED POWER SUPPLY SYSTEMS FOR CRITICAL CARE ARES

ABOUT US

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SMART ISOLATED POWER SUPPLY SYSTEMS FOR CRITICAL CARE ARES

- ELECTRCIAL SAFETY IN PATIENT AREAS
- ISOLATED ELECTRICAL SUPPLY SYSTEMS
- SMART ISOLATED POWER SUPPLY SYSTEMS
- DEMO CASE

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ELECTRCIAL SAFETY IN PATIENT AREAS

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COMPROMISED PHYSIOLOGY

Sedation, anaesthesia, and critical illness may mask early symptoms of electric shock, delaying detection and intervention

REDUCED BODY IMPEDANCE

Surgical incisions, open wounds, burns, and damaged or moisture-exposed skin greatly lower natural skin resistance, permitting much higher current flow.

DIRECT CONDUCTIVE PATHWAYS

Catheters, venous lines, electrodes, and other invasive medical devices can provide direct current paths to internal organs, particularly the heart, substantially increasing the risk of ventricular fibrillation or cardiac arrest.

FIRE AND EXPLOSION

Using medical gases, anaesthetics, disinfectants and cleaning substances

LOSING POWER

Life-support equipment, surgical instruments, patient-monitoring devices must always maintain continuous operation, as even brief interruptions to power can jeopardise patient safety and adversely affect clinical outcomes

ELECTRCIAL SAFETY IN PATIENT AREAS

MEDICAL PERSONNEL

PATIENTS

THE FUNDAMENTAL DESIGN PRINCIPLE FOR ELECTRICAL SAFETY IN OPERATING ROOMS AND ICUs

- PROTECT PATIENTS AND MEDICAL PERSONNEL FROM ELECTRICAL HAZARDS
- ENSURE CONTINUOUS POWER TO ESSENTIAL MEDICAL EQUIPMENT, INCLUDING UNDER FAULT CONDITIONS

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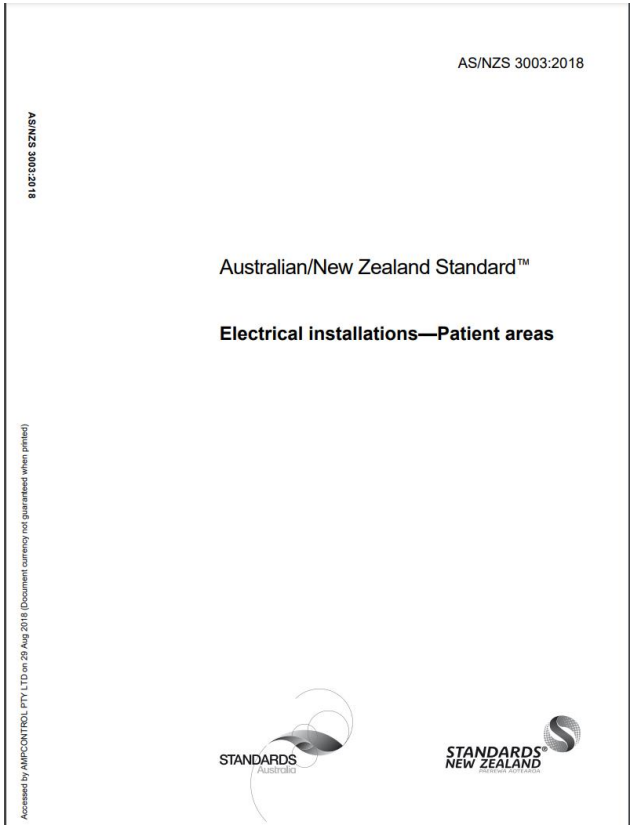
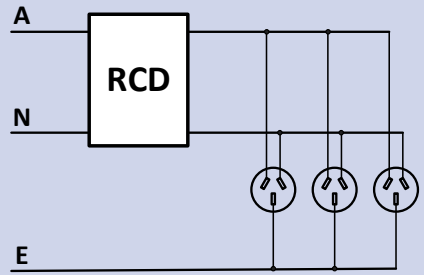
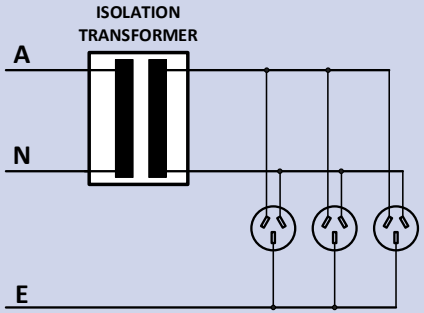
ELECTRCIAL SAFETY IN PATIENT AREAS

AS/NZS 3003



ELECTRCIAL SAFETY IN PATIENT AREAS

AS/NZS 3003

Type of LPD		Patient area
	**Type I low-voltage residual current devices (RCD) in accordance with AS/NZS 3190, AS/NZS 610081 or AS/NZS 61009.1**	cardiac-protected electrical area
		body-protected electrical area
	**Low-voltage isolation transformer in accordance with AS/NZS 4510**	cardiac-protected electrical area
		body-protected electrical area

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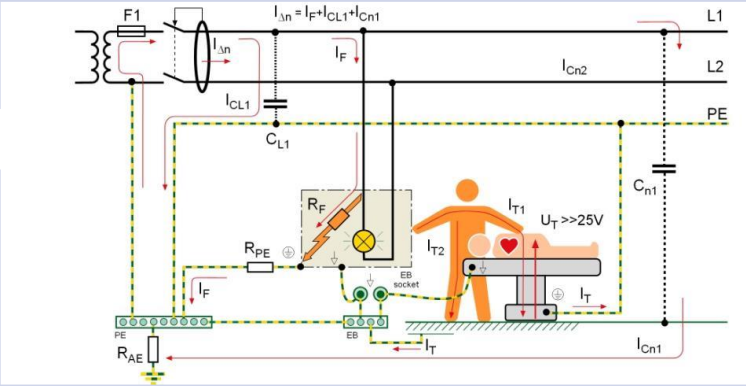
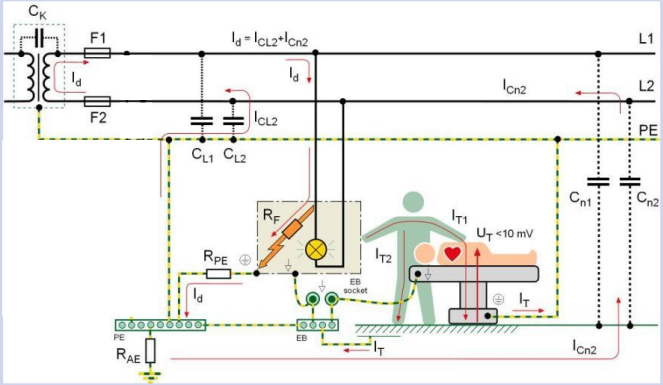
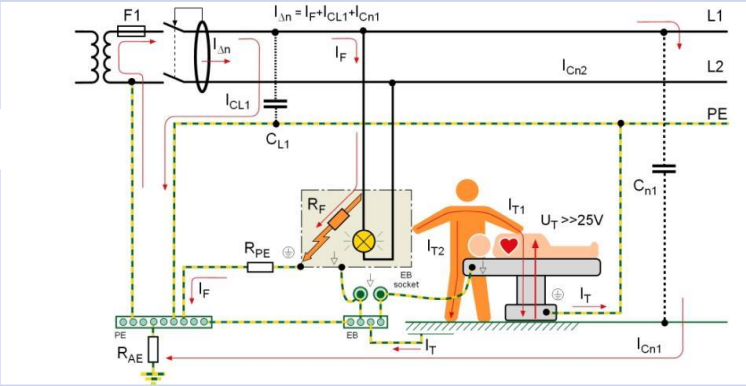
ELECTRCIAL SAFETY IN PATIENT AREAS

RCD	ISOLATION TRANSFORMER
	
TOUCH VOLTAGE >>25V MORTAL DANGER FOR PATIENT DUE TO HIGH BODY CURRENT	**TOUCH VOLTAGE <10mV NO DANGER FOR PATIENT EVEN DURING OPEN HEART SURGERY OR HEART CATHETER EXAMINATIONS**

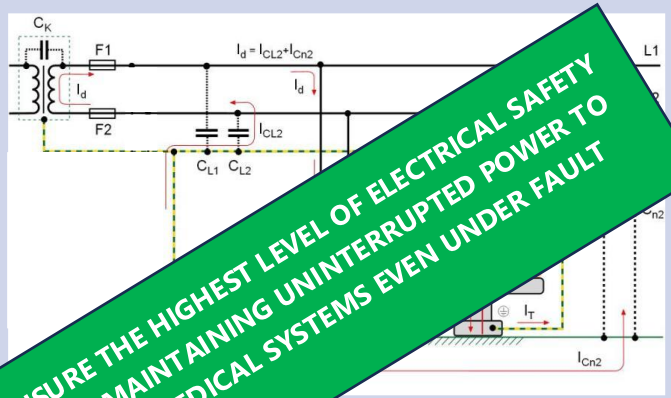
ELECTRCIAL SAFETY IN PATIENT AREAS

RCD



TOUCH VOLTAGE >>25V
MORTAL DANGER FOR PATIENT DUE TO HIGH BODY CURRENT

ISOLATION TRANSFORMER



ENSURE THE HIGHEST LEVEL OF ELECTRICAL SAFETY WHILE MAINTAINING UNINTERRUPTED POWER TO CRITICAL MEDICAL SYSTEMS EVEN UNDER FAULT CONDITION.

CH VOLTAGE <10mV
O DANGER FOR PATIENT
E DURING OPEN HEART SURGERY OR HEART CATHETER EXAMINATIONS

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- SMART ISOLATED POWER SUPPLY SYSTEMS
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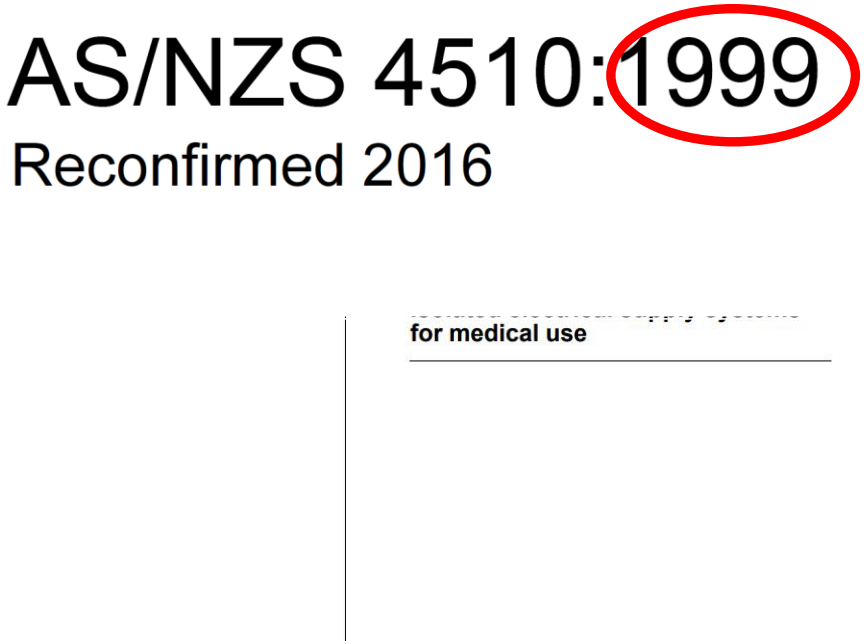
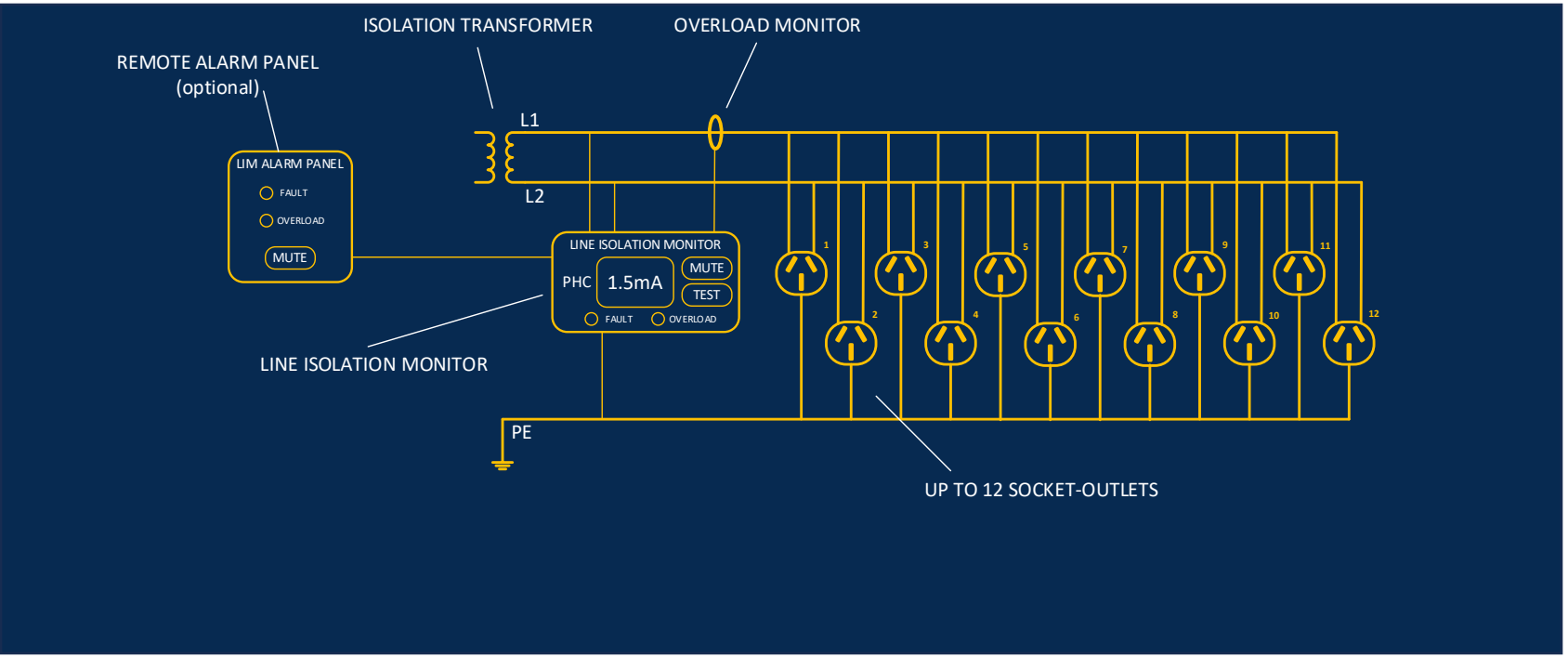
ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510



ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510



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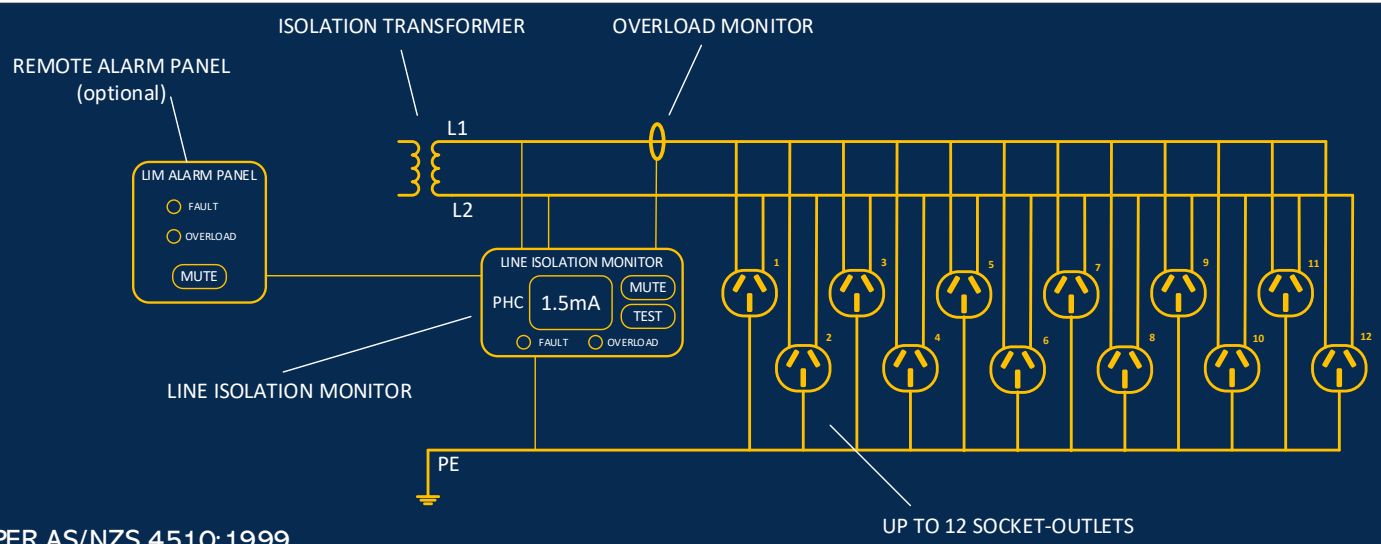
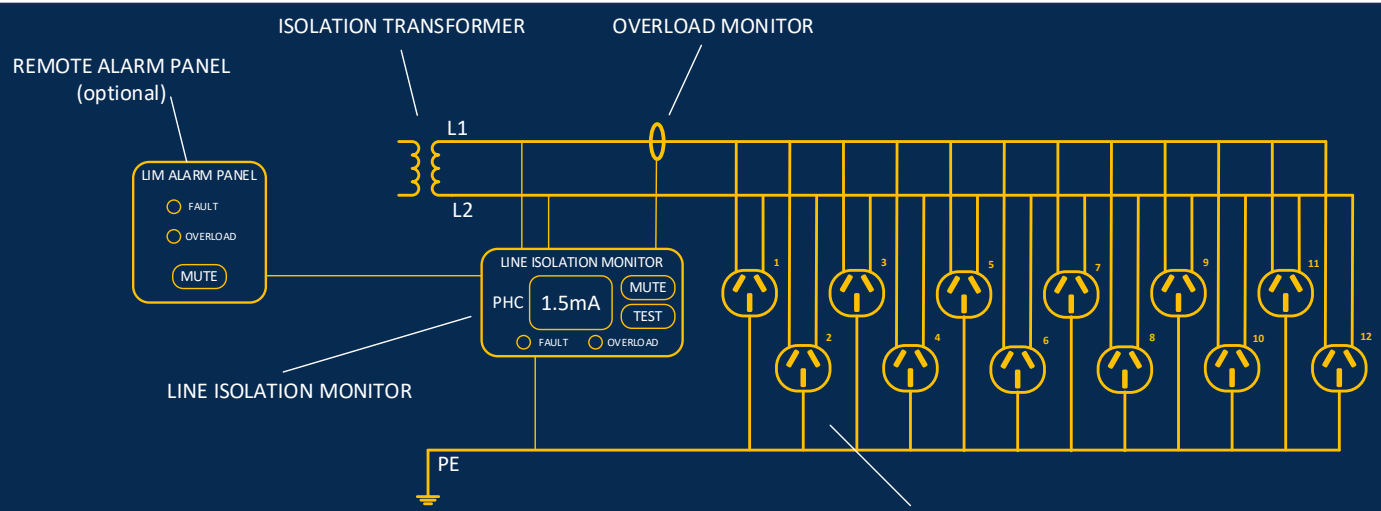


AS PER AS/NZS 4510:1999

Line isolation monitor (LIM) — an instrument that continuously monitors the prospective hazard current and that actuates an alarm when this current exceeds a preset value.

ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510



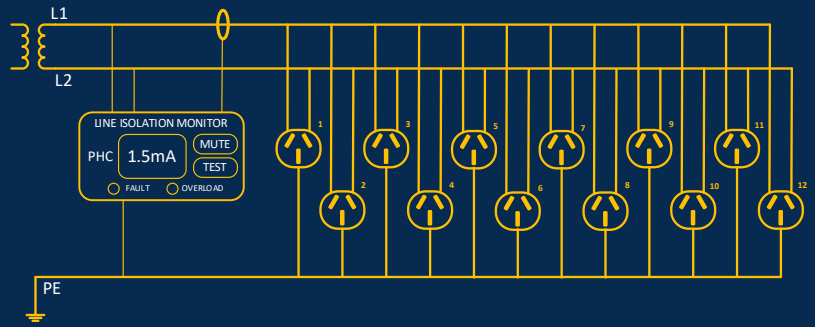
AS PER AS/NZS 4510:1999

Line isolation monitor (LIM) — an instrument that continuously monitors the prospective hazard current and that actuates an alarm when this current exceeds a preset value.

Overload monitor — an instrument that continuously monitors the primary current of an isolated supply and which actuates an alarm when the current exceeds the rating of the isolating transformer.

ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510



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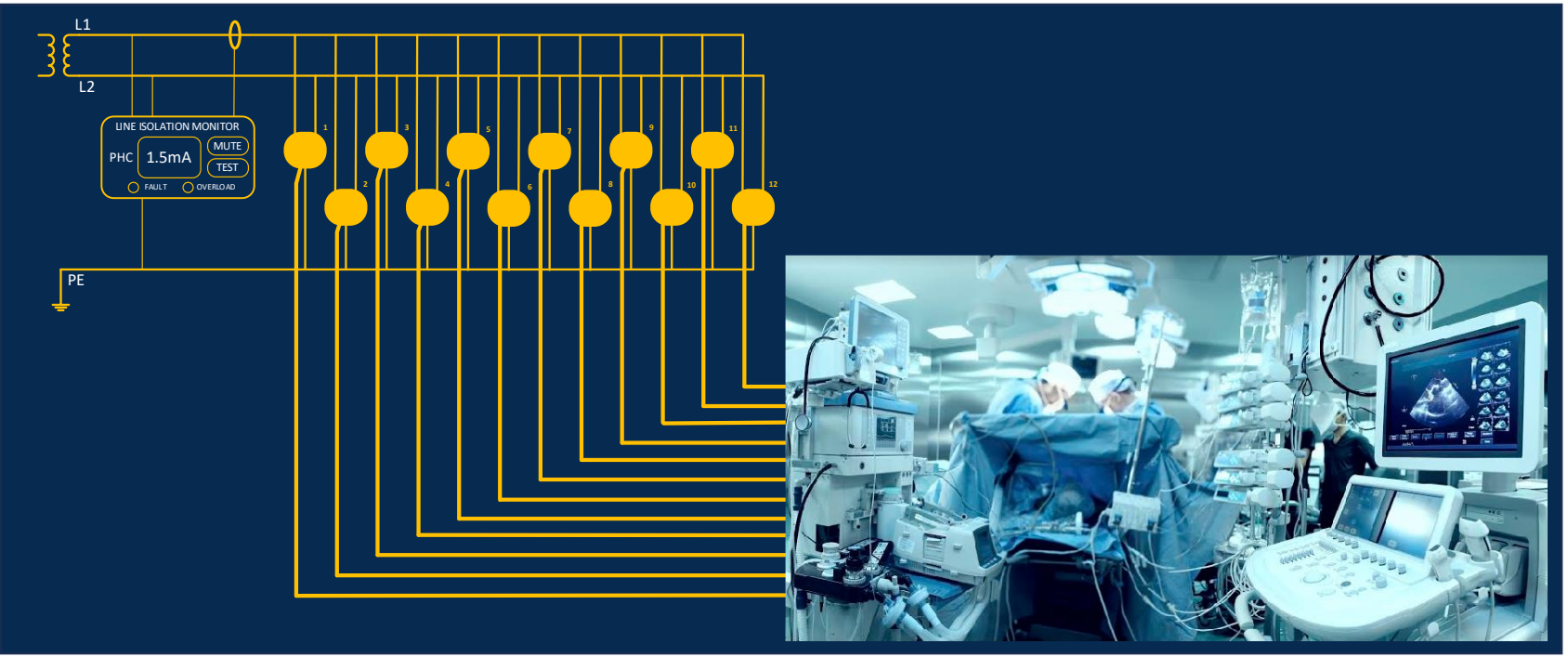
ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510



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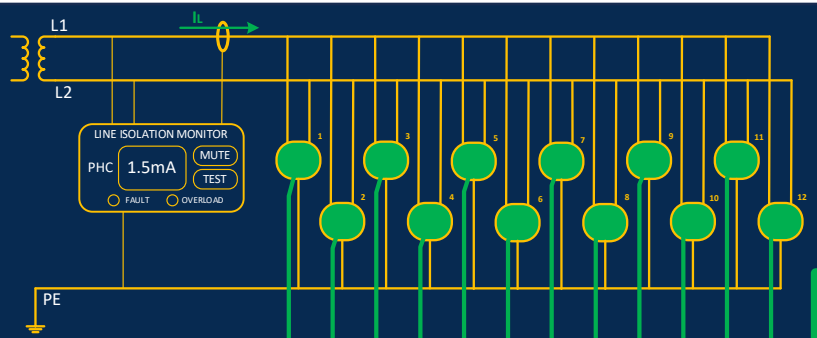

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ISOLATED ELECTRICAL SUPPLY SYSTEMS

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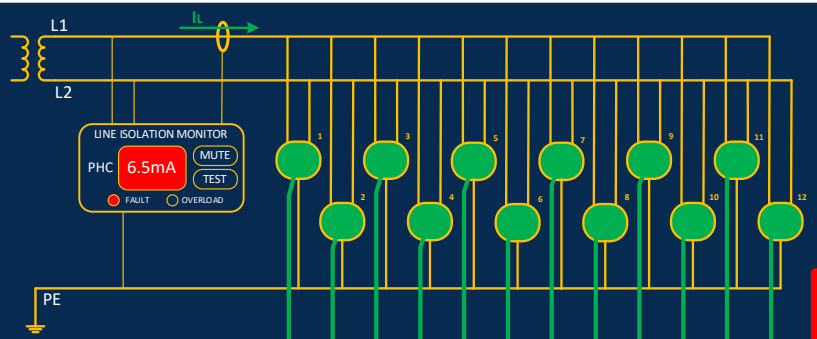

PHC (HAZARD) ALARM

ISOLATED ELECTRICAL SUPPLY SYSTEMS

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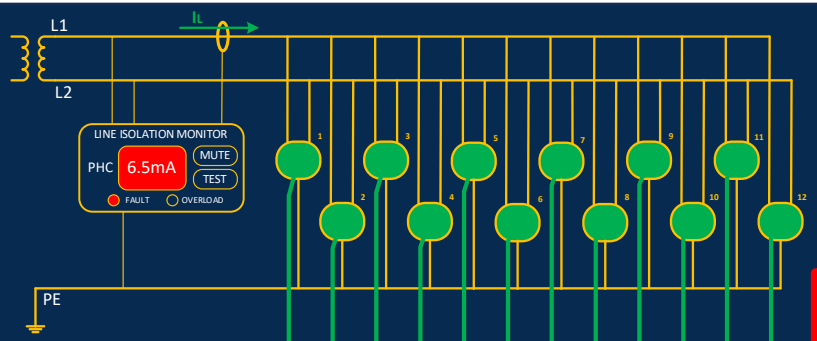

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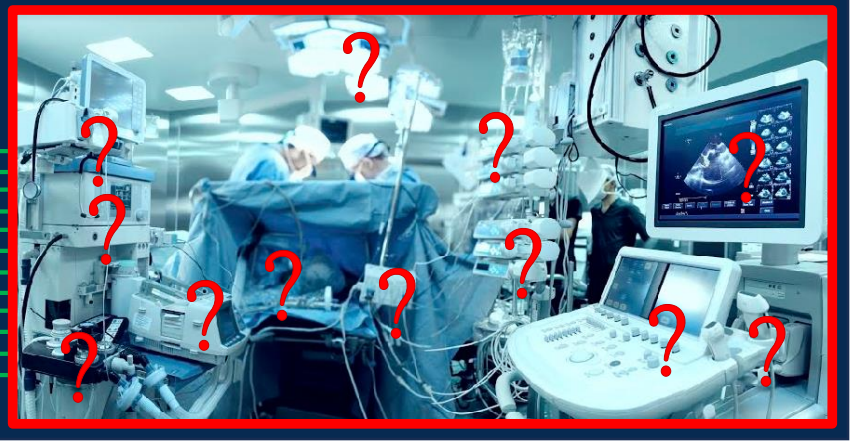

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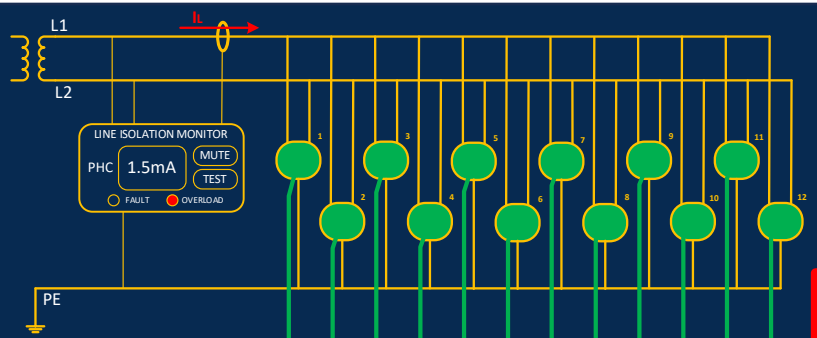

OVERLOAD ALARM

ISOLATED ELECTRICAL SUPPLY SYSTEMS

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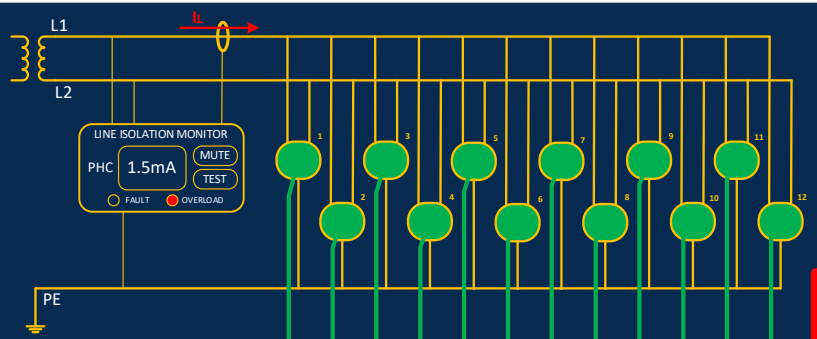

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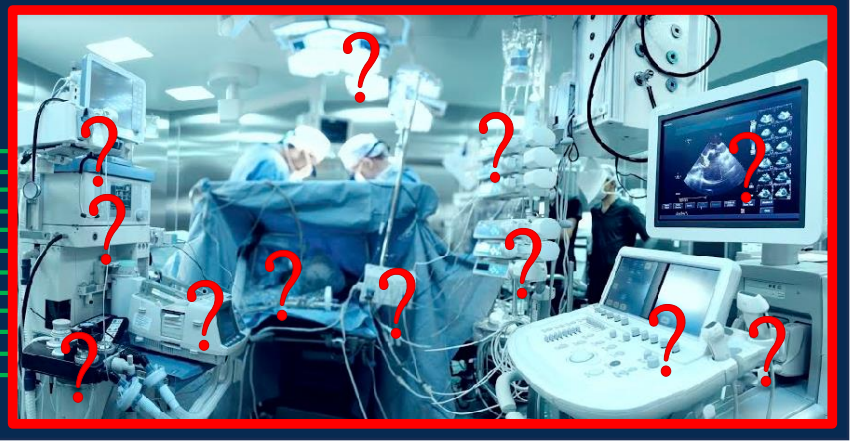

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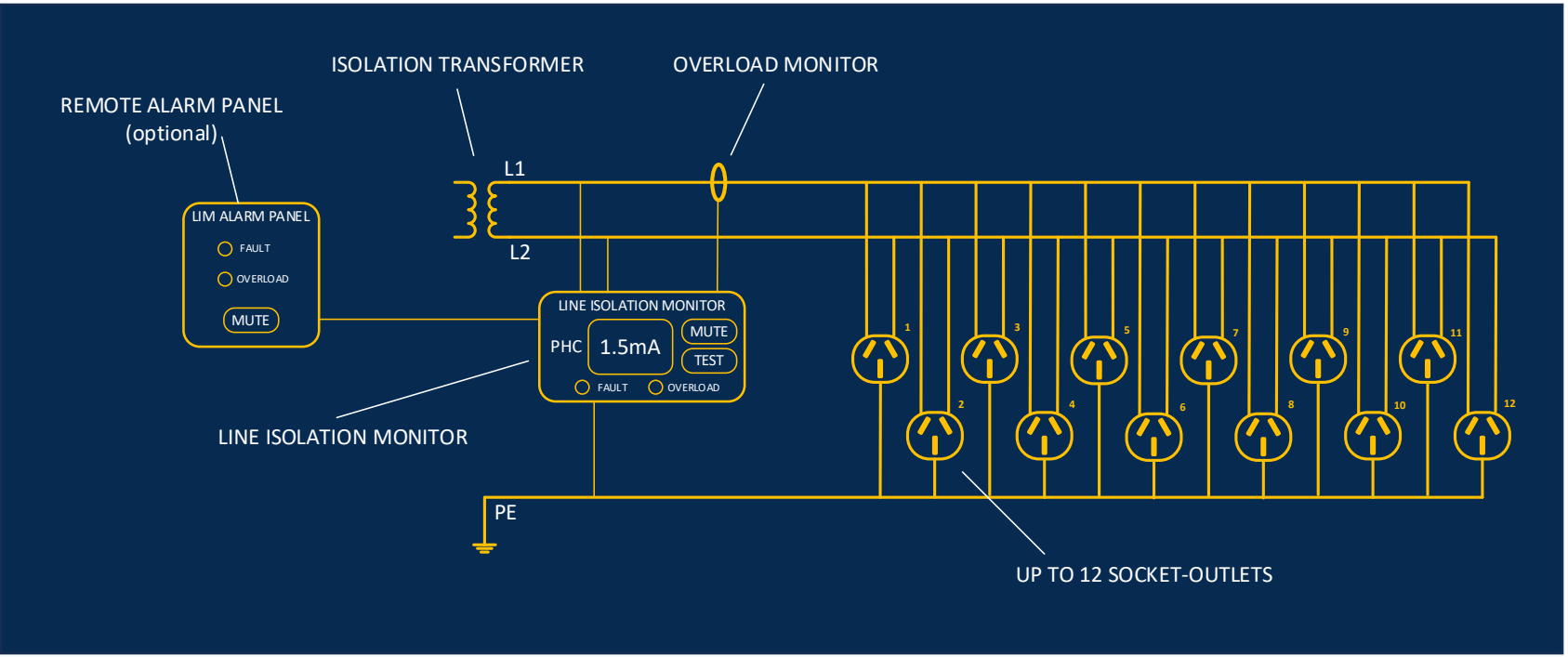
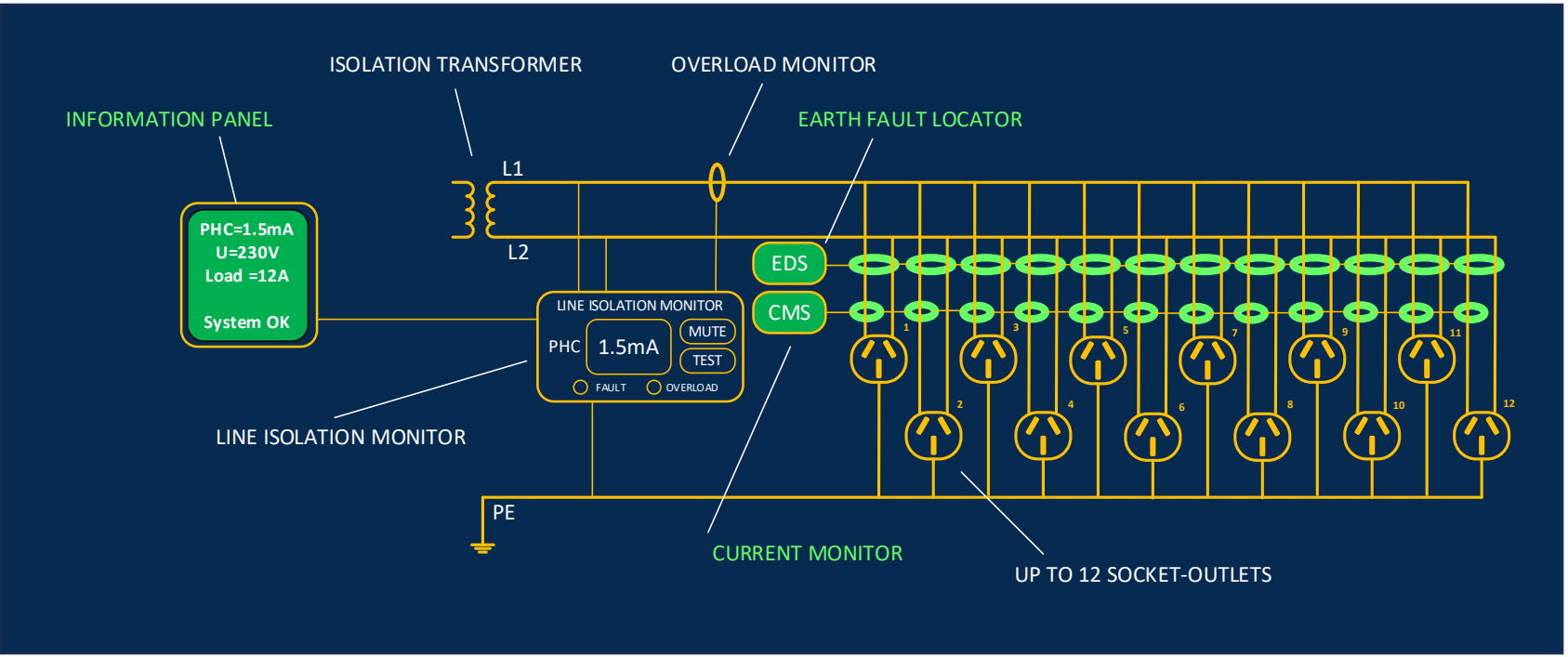


SMART ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510 PLUS



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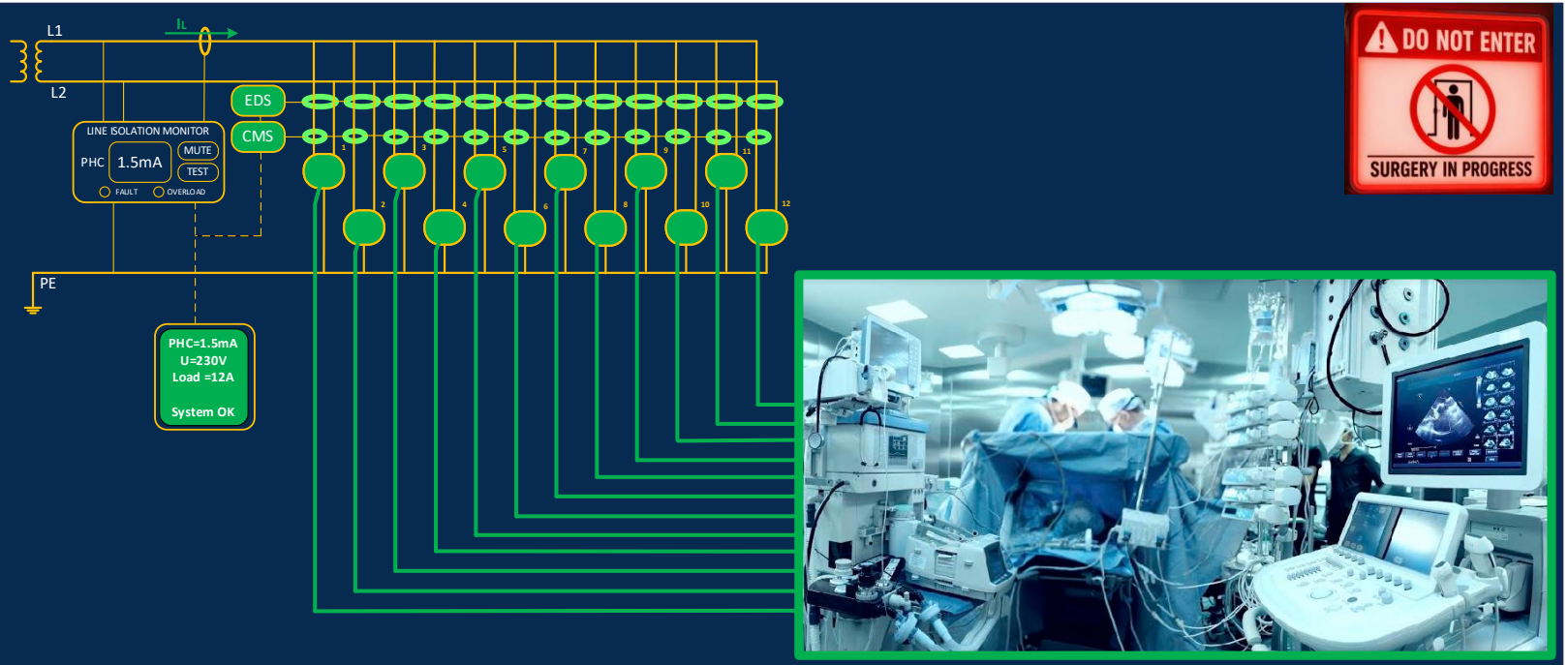

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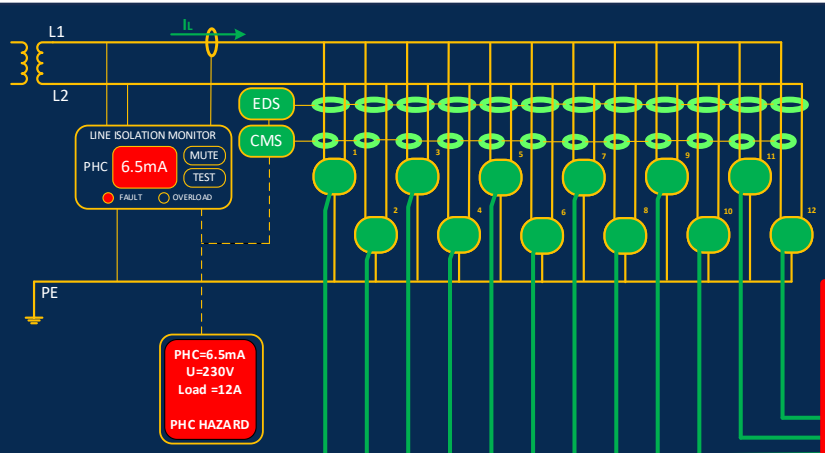

PHC (HAZARD) ALARM

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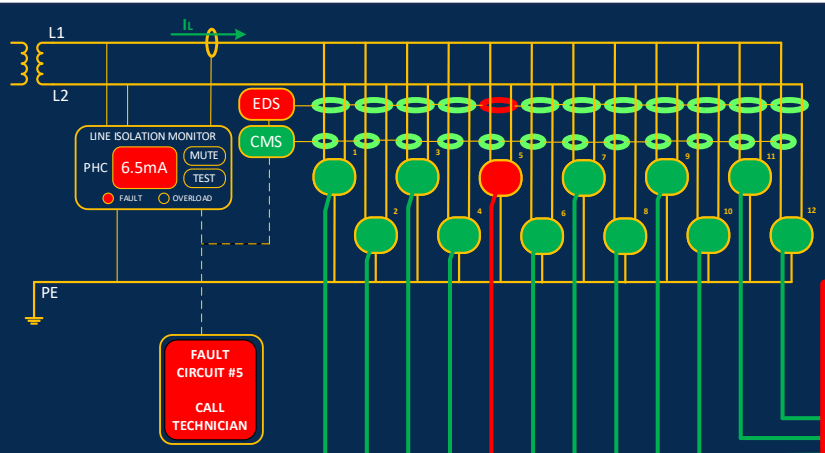

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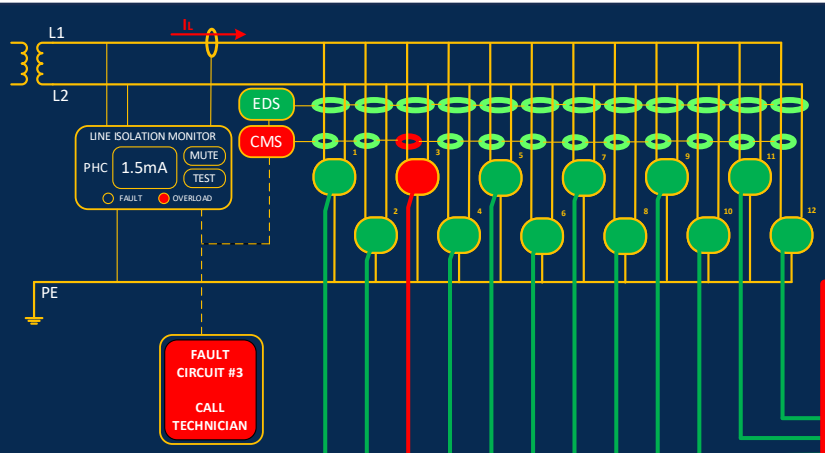

OVERLOAD ALARM

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SMART ISOLATED POWER SUPPLY SYSTEMS

COMPARISON

ISOLATED ELECTRICAL SUPPLY SYSTEMS	SMART ISOLATED ELECTRICAL SUPPLY SYSTEMS
Monitoring • Indication of the measured value of total PHC. • Indication of the measured value of total load current.	**Monitoring** • Indication of the measured value of total PHC. • Indication of the measured value of PHC for each individual circuit. • Indication of the measured value of total load current. • Indication of the measured value of load current for each individual circuit.

Alarm Functions
• Audible and visual alarm for PHC hazard conditions.
• Audible and visual alarm for transformer overload conditions.
	Alarm and Diagnostic Functions
	• Audible and visual alarm for PHC hazard conditions.
	• Automatic identification of the circuit responsible for the PHC hazard condition.
	• Audible and visual alarm for transformer overload conditions.
	• Automatic identification of the circuit responsible for the transformer overload condition.
	• Provide of a detailed fault description, including:
	  • The type of fault detected.
	  • The location or affected circuit.
	  • Instructions for resolving the condition.

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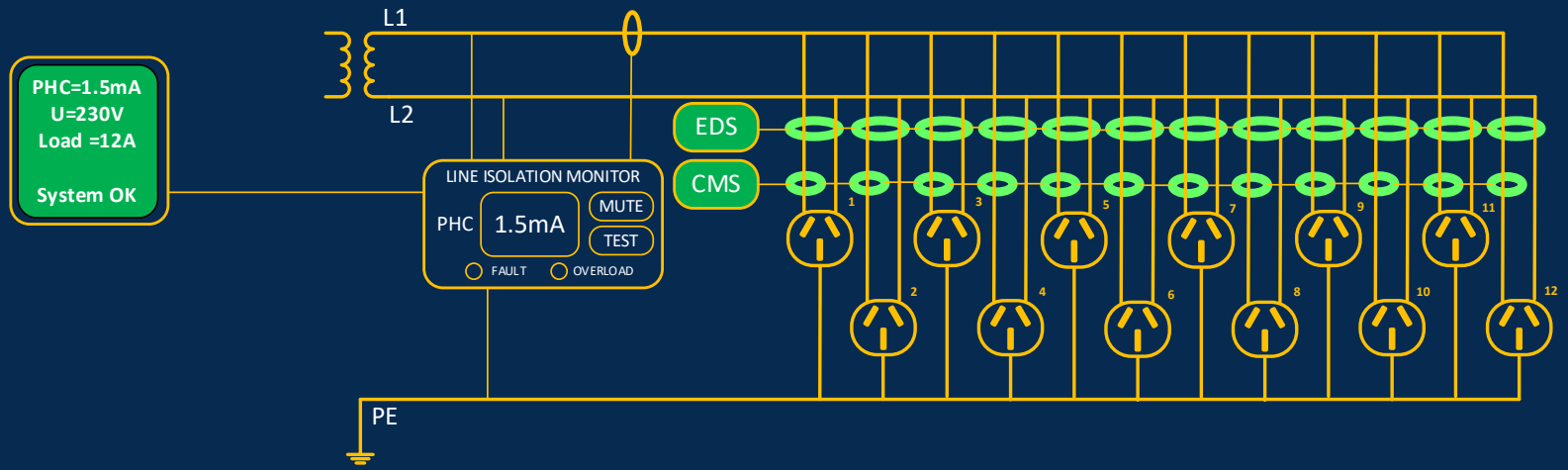
SMART ISOLATED ELECTRICAL SUPPLY SYSTEMS

AS/NZS 4510 PLUS

How EDS works



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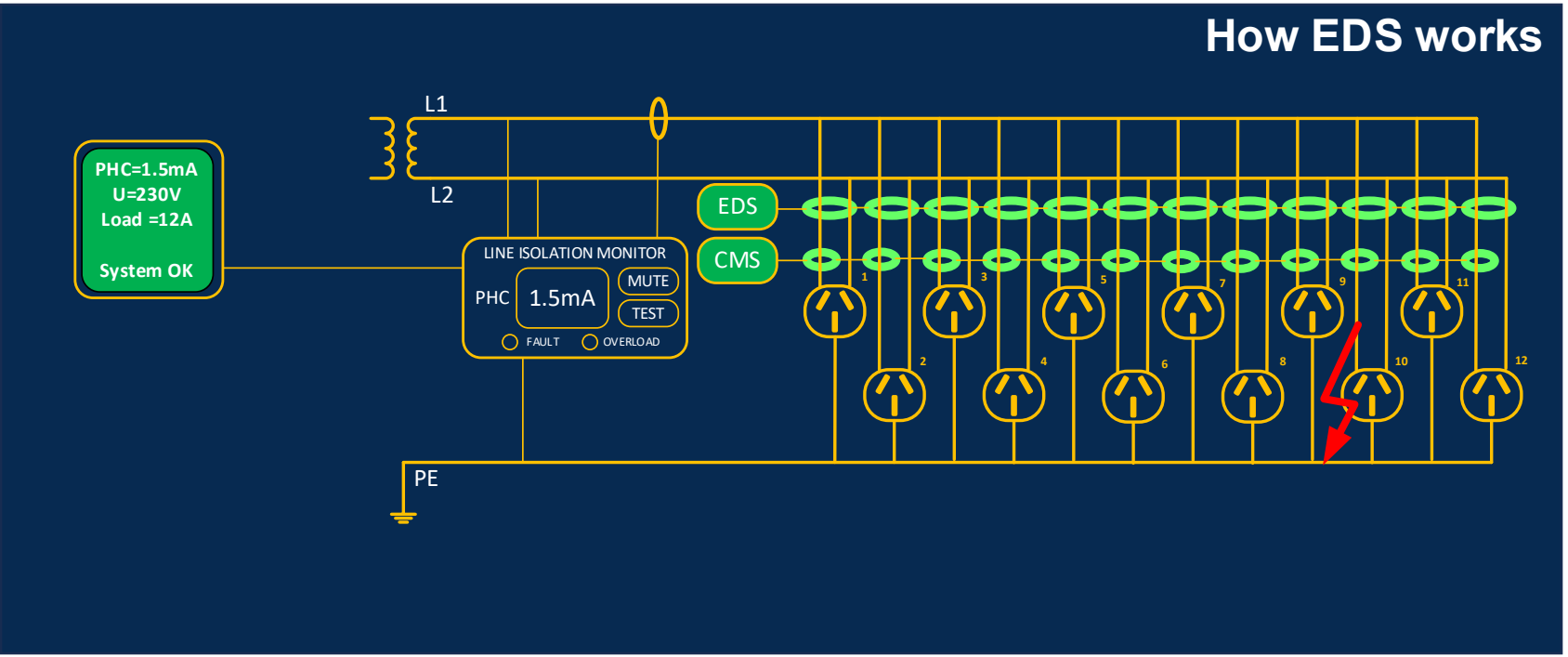

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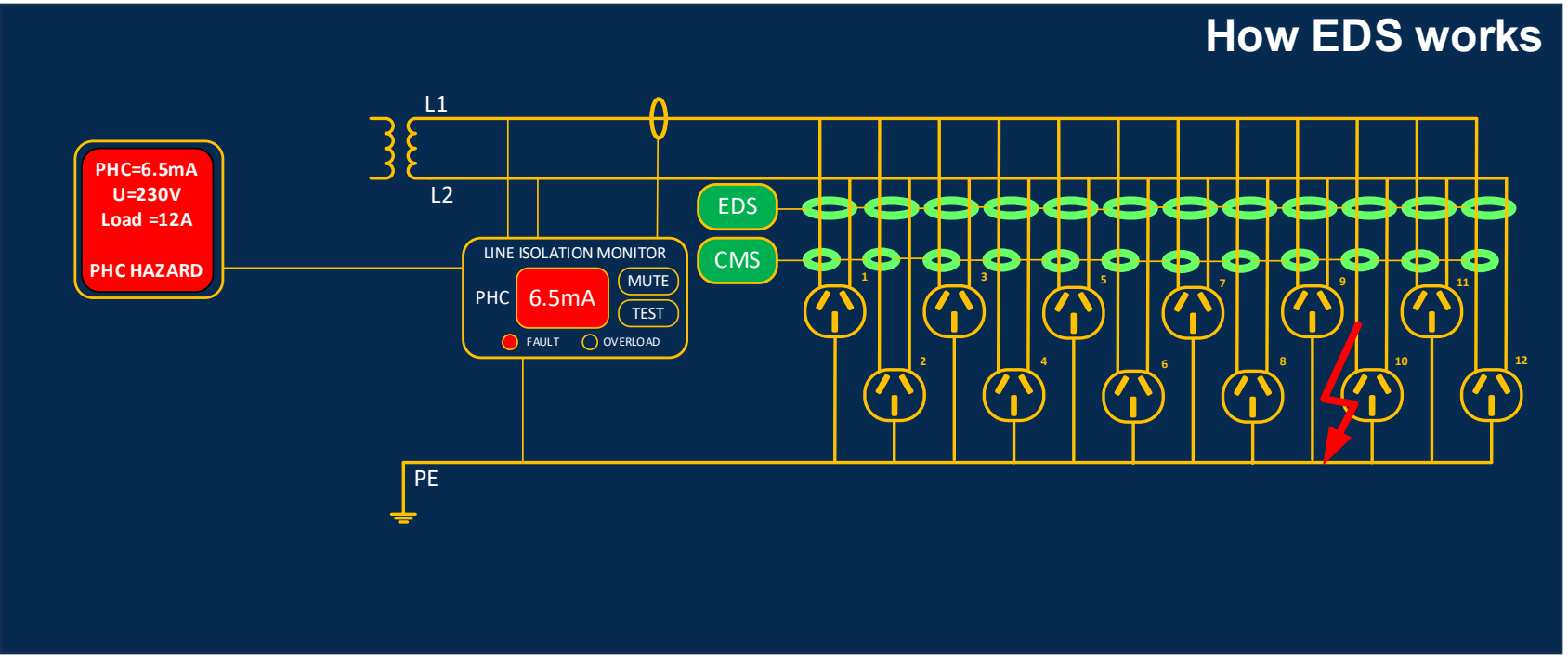

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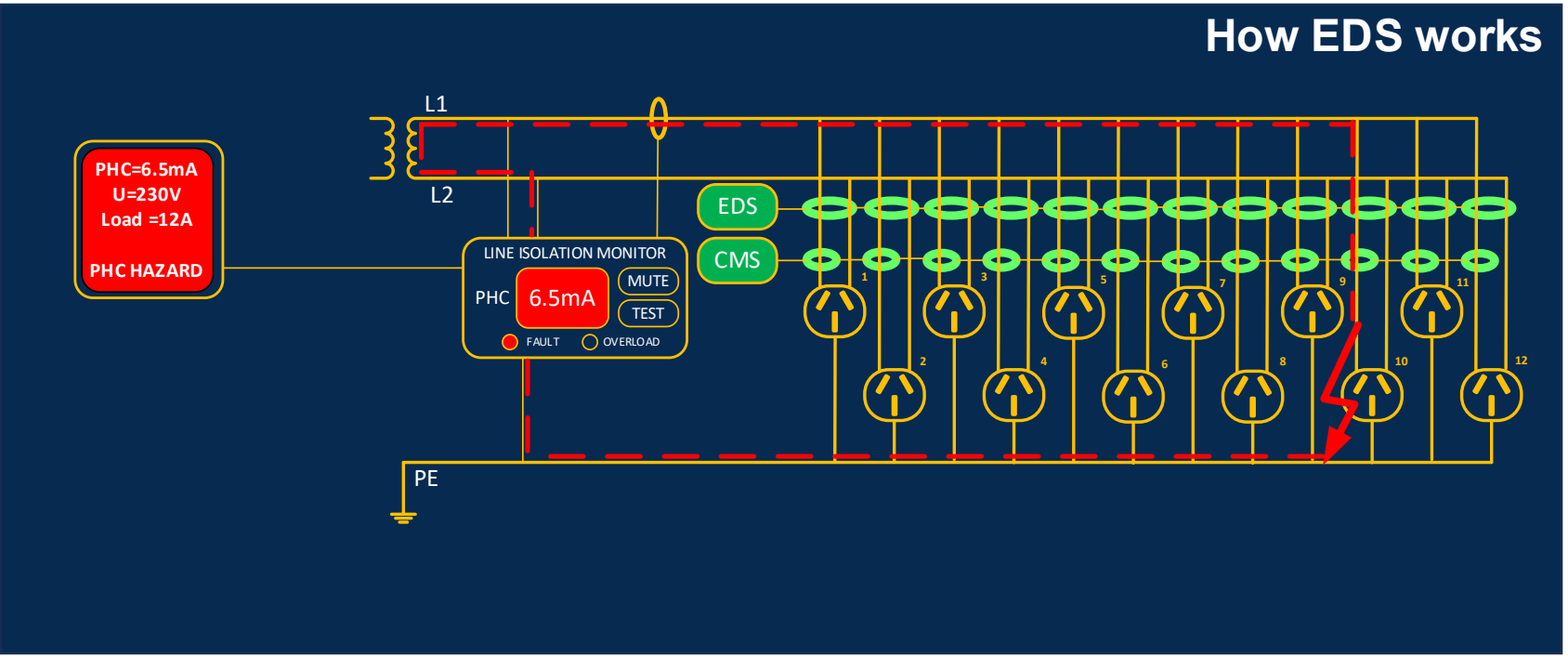

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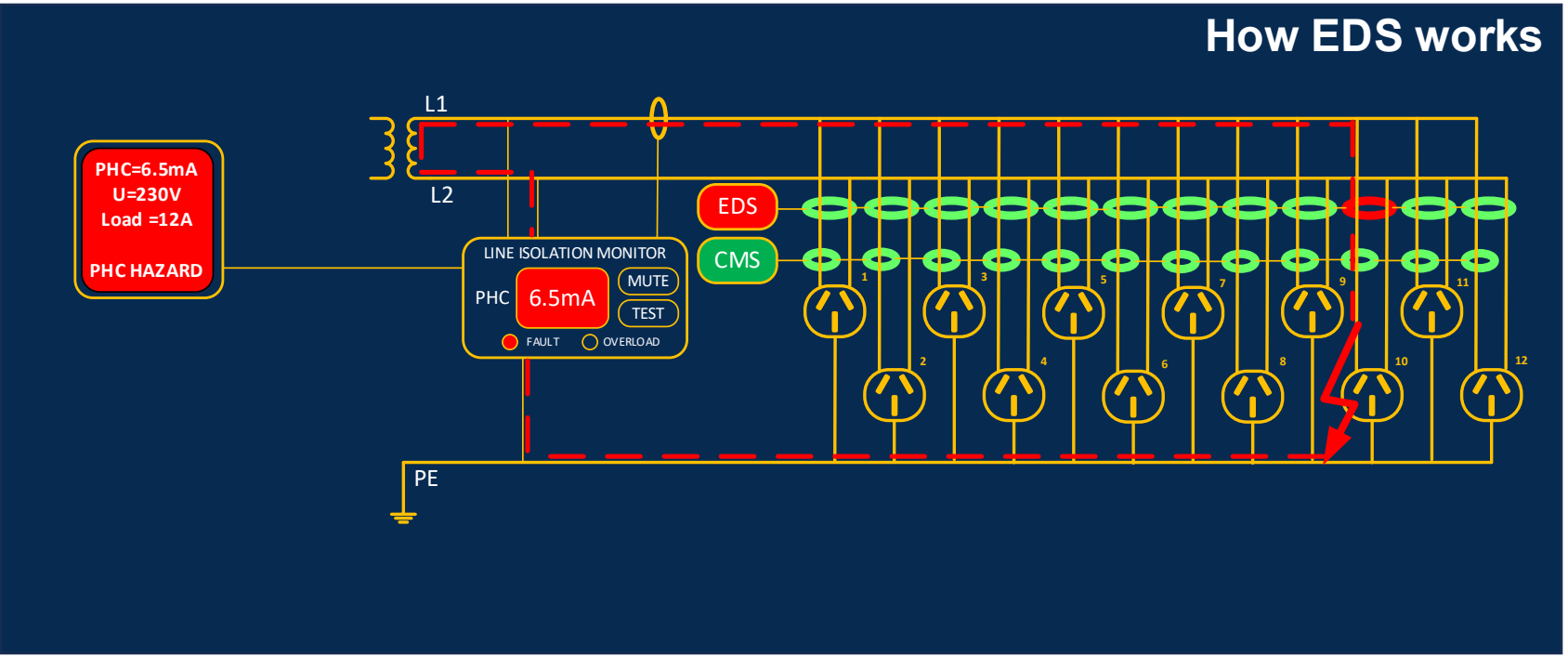
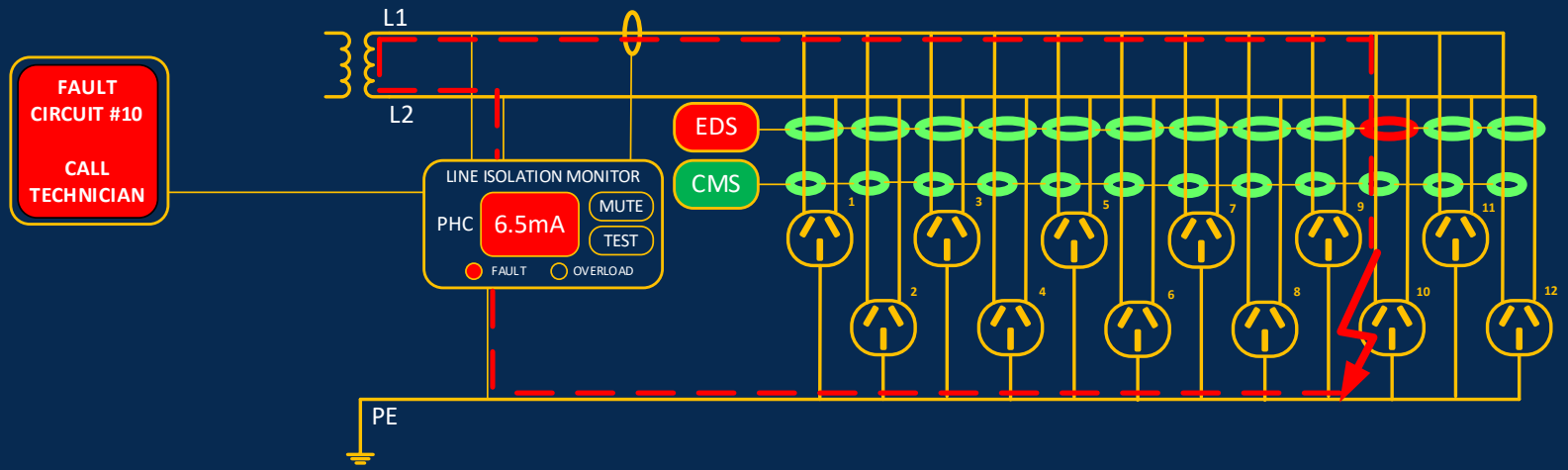


SMART ISOLATED ELECTRICAL SUPPLY SYSTEMS

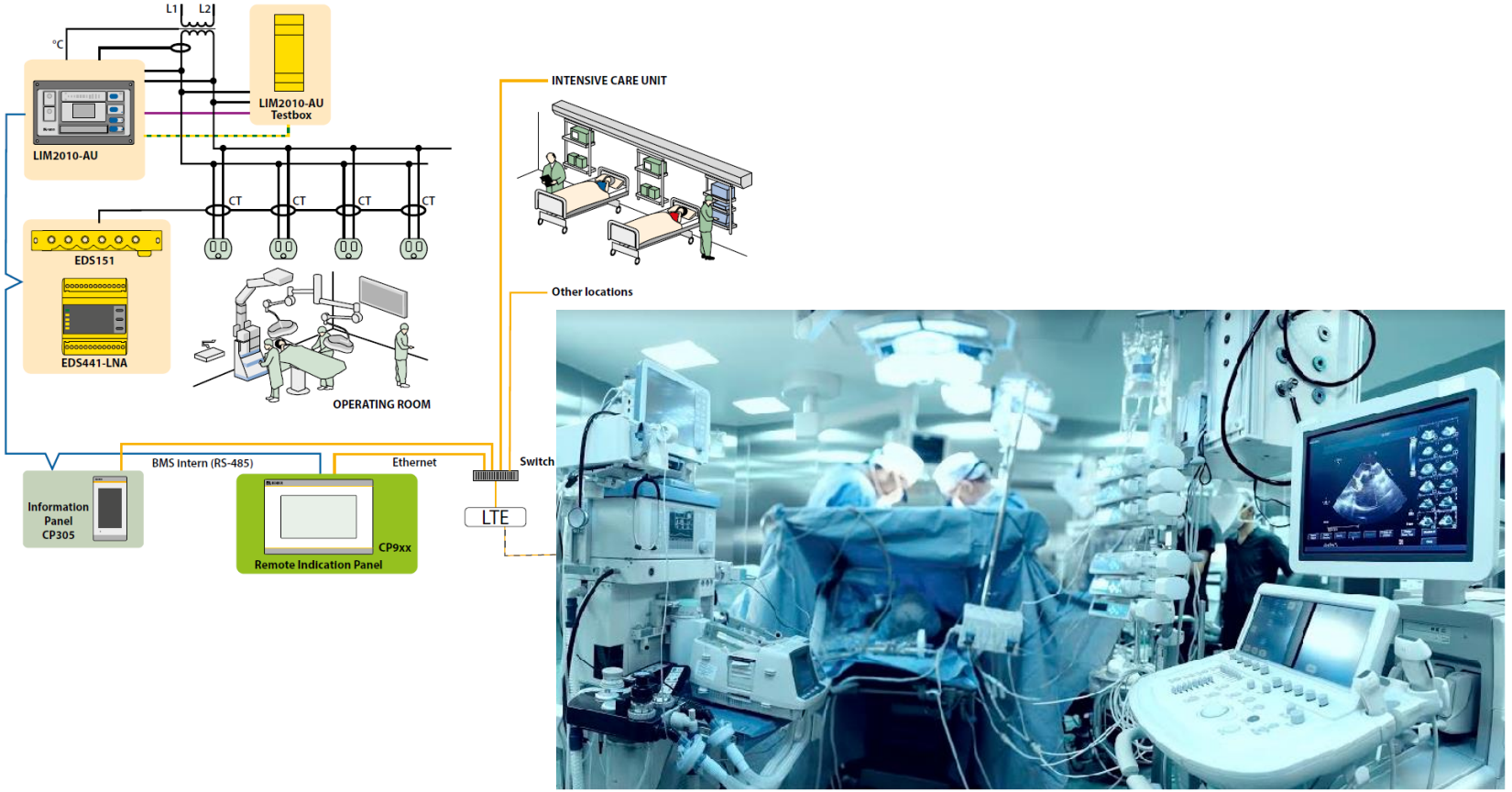
AS/NZS 4510 PLUS

How EDS works



SMART ISOLATED POWER SUPPLY SYSTEMS

IEC 61557-8 and IEC 61557-9



SMART ISOLATED POWER SUPPLY SYSTEMS

REFERENCE PROJECTS WORLDWIDE

Country	City	Name
Austria	Bregenz	Landeskrankenhaus Bregenz
	Eisenstadt	Krankenhaus Barmherzige Brüder Eisenstadt
	Graz	LKH-Universitätsklinikum Graz
	Innsbruck	Universitätsklinikum Innsbruck
	Klagenfurt	Landeskrankenhaus Klagenfurt
	Linz	Allgemeines Krankenhaus der Stadt Linz Unfallkrankenhaus Linz Landes-Frauen- und Kinderklinik Landes-Nervenklinik Wagner Jauregg Allgemein öffentliches Krankenhaus Elisabethinen Linz
	Salzburg	Universitätsklinikum Salzburg
	Spittal/Drau	A.ö.Krankenhaus Spittal/Drau
	St. Pölten	Landesklinikum St. Pölten
	Wien	Allgemeines Krankenhaus der Stadt Wien Krankenhaus Göttlicher Heiland Unfallkrankenhaus Meidling Sozialmedizinisches Zentrum Ost – Donauspital
	Wr. Neustadt	Landesklinikum Wr. Neustadt
Belorussia	Gomel	Cardiological Center
	Minsk	Clinical City Hospital No. 10 Republican Hospital Transplantology Center of the Belorussian Public Health Ministry
Croatia	Split	Medical Centre
	Zagreb	Medical Centre
	Karlovac	General Hospital
	Virovitica	General Hospital
	Osijek	General Hospital
	Zagreb	Children's Hospital
Czech Republic	Brno	Faculty Hospital Brno Bohunice St. Anne´s university hospital Brno
	Hradec Králové	Faculty Hospital Hradec Králové
	Jihlava	Hospital Jihlava
	Karlovy Vary	Hospital Karlovy Vary
	Nový Jičín	Hospital Nový Jičín
	Prag	FN Motol University Hospital

Country	City	Name
Estonia	Kohtla-Järve	Ida-Viru Keskhaigla
	Tallinn	Põhja-Eesti Regionaalhaigla Ida-Tallinna Keskhaigla
	Tartu	Tartu Ülikooli Kliinikum
Germany	Berlin	Charite – Virchow Klinikum Berlin
	München	Uniklinikum München-Grosshadern
	Hamburg	Unfallkrankenhaus Eppendorf-Hamburg
	Dresden	Universitatsklinikum Dresden
	Hannover	Medizinische Hochschule Hannover
	Magdeburg	Uniklinikum Magdeburg
	Würzburg	Klinikum Würzburg
Lithuania	Joniskis	Joniskis Hospital
	Klaipeda	Republic Hospital Klaipeda
	Siauliai	Siauliai Surgery Centre
	Vilnius	Children's Hospital of Santariskiu Klinikos
Norway	Bergen	Helse Bergen HF Haukeland Universitetssykehus
	Bødø	Nordlandssykehuset HF
	Drammen	Vestre Viken HF Sykehuset Buskerud
	Kristiansand	Sørlandets Sykehus HF Kristiansand
	Oslo	Oslo Universitetssykehus HF, Rikshospitalet Oslo Universitetssykehus HF, Radiumhospitalet Oslo Universitetssykehus HF, Ullevål Oslo Universitetssykehus HF, Aker Akershus Universitetssykehus HF
	Stavanger	Helse Stavanger HF
	Tønsberg	Sykehuset Vestfold HF
	Trondheim	St Olavs Hospital HF

Motol Hospital

Country	City	Name
Poland	Białystok	Uniwersytecki Szpital Kliniczny
	Bydgoszcz	Szpital Wojskowy
	Gdańsk	Centrum Medycyny Inwazyjnej UMG
	Jarocin	Szpital Powiatowy
	Lublin	SPSK nr 4
	Szczecin-Zdunowo	Szpital Specjalistyczny
	Warszawa	Szpital im. Św. Rodziny Szpital Praski Instytut Gruźlicy i Chorób Płuc Wojskowy Instytut Medyczny
	Zabrze	Śląskie Centrum Chorób Serca
	Żary	105. Szpital Wojskowy
Slovak Republic	Bánská Bystrica	Faculty Hospital with policlinic F.D. Roosevelta
	Dunajská Streda	Hospital Dunajská Streda
	Prešov	Faculty hospital Prešov
	Ružomberok	Hospital Ružomberok
	Žilina	Hospital with policlinic Žilina
Slovenia	Ljubljana	University Medical Centre Institute of Oncology Children's Hospital
	Maribor	University Medical Centre
	Celje	General Hospital
	Slovenj Gradec	General Hospital
	Jesenice	General Hospital
	Murska sobota	General Hospital
	Brežice	General Hospital
Sweden	Karlstad	Centralsjukhuset
	Linköping	TMC – Linköping Universitetet
	Göteborg	BIOC Bild och interventionscentrum Angereds närsjuhus
	Örebro	USÖ – Universitetssjukhuset i Örebro Örebro Sjukhus
	Jönköping	Länssjukhuset Ryhov
	Lindesberg	Lindesbergs lasarett
	Sundsvall	Sundsvalls Sjukhus. Operation
	Norrköping	Vrinnevisjukhuset
Switzerland	Basel	Universitätsspital Basel
	Luzern	Luzerner Kantonsspital Hirslanden Klinik St. Anna
	Bern	Inselspital Bern
	Grabs	Spital Grabs
	Männedorf	Spital Männedorf
	Winterthur	Kantonsspital Winterthur
	Zürich	Universitätsspital Zürich

Country	City	Name
UK	London	Royal Free Hospital
	Newcastle	Newcastle Royal Infirmary
	Edinburgh	Royal Infirmary of Edinburgh
	Birmingham	Birmingham PFI Hospital Good Hope Hospital
	Liverpool	Alder Hey Hospital Liverpool Heart & Chest Hospital
	Barrow-in-Furness	Furness General Hospital
	Manchester	Manchester Royal Infirmary
	Brighton	Royal Sussex County Hospital

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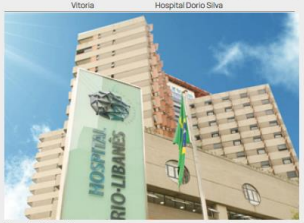
REFERENCE PROJECTS WORLDWIDE

Country	City	Name
Argentina	Buenos Aires	Hospital Britanico Sanatorio Mater Dei Hospital Aleman
Brazil	Altamira	Hospital Geral De Altamira
	Belo Horizonte	Santa Casa De Misericordia De Belo Horizonte
	Brasilia	Hospital Daher Lago Sul
	Campo Grande	Hospital Regional Do Mato Grosso Do Sul
	Juazeiro Do Norte	Hospital Regional Do Cariri
	Manaus	Hospital Nilton Lins
	Recife	Hospital Geral Jayme Da Fonte
	Rio De Janeiro	Hospital Das Americas Hospital Quinta D'or
	Salvador	Hospital Aliança
	São Luiz	Hospital Dr Carlos Macieira
	São Paulo	Hospital Sirio Libanes Hospital Israelita Albert Einstein
	Teresina	Hospital Universitario Do Piaui
	Vitoria	Hospital Dorio Silva



Hospital Sirio Libanes

Country	City	Name
Canada	Toronto, ON	Sick Kids Hospital* St. Michaels Hospital*
	Edmonton, AB	Grey Nuns Hospital*
	Vancouver, BC	Vancouver General Hospital*
	Oakville, ON	Oakville General Hospital*
	Kingston, ON	Hotel Dieu Hospital*
	Fort McMurray, AB	Northern Lights Health Ctr.*
	Montréal, QC	Hopital du Sacre Coeur de Montréal*
Colombia	Bogotá	Clínica Fundación Santa Fe* Clínica La Colina Bogotá*
	Ibagué	Clínica Los Nogales Ibagué*
Costa Rica	San Jose	Hospital San Juan de Dios*
	Siquirres	CENTRO DE ATENCION INTEGRAL DE SALUD DE SIQUIRRES*
Dominican Republic	Santo Domingo	CEDIMAT PROJECT*

Country	City	Name
Ecuador	Guayaquil	Omni Hospital, Guayaquil*
	Loja	Hospital Catacocha*
	Quito	Hospital de Los Valles*
El Salvador	San Salvador	HOSPITAL MATERNIDAD*
Guatemala	Guatemala City	Hospital de Villanueva*
	Chimaltengano	HOSPITAL CHIMALTENGANO*
	Coatepeque	HOSPITAL COATEPEQUE*
	Mazatenango	HOSPITAL DE MAZATENANGO*
Nicaragua	Managua	HOSPITAL METROPOLITANO VIVIAN PELLAS*
Panama	Panama City	Hospital UCI Adultos y Neomatos*
Peru	Lima	Clínica san Borja Internacional Clínica San Judas Tadeo
USA	New York, NY	NYU Hospital Center Helen L and Martin S Kimmel Pavilion *
	Seattle, WA	University of Washington Medical Center*
	Ann Arbor, MI	University of Michigan Medical Center*
	Nashville, TN	Vanderbilt University Medical Center*
	Philadelphia, PA	Hospital of the University of Pennsylvania*
Venezuela	Cagua	Centro Médico Cagua
	Caracas	Clínica Sanitas
	Caracas	Clínica La Urbina
	Pto. Cabello	Clínica San Jose
	San Cristóbal	Policlínica Táchira

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Country	City	Name
Bahrain	Manama	BAHRAIN DEFENCE FORCE HOSPITAL
Egypt	Cairo	Der El Fouad El Galaa Hospital Egypt Air hospital Al Salam international hospital Wadi Al Neel hospital Police Hospital Cairo Arab contractor Medical Center Der Al Oyoun Hospital Asfour Charity Hospital Kobri El Koba Hospital Der Al Fouad Hospital Nasr City* As-Salam International Hospital* Al Azhar University*
	Mansoura	Mansoura University
	El Monofeya	El Araby International Hospital
	Alexandria	Police Hospital Alexandria

Al Salam international hospital

Country	City	Name
Kuwait	KUWAIT CITY	SAFAT AMERICAN HOSPITAL
QATAR	DOHA	HAMAD BIN KHALIFA MEDICAL CITY HAMAD GENERAL HOSPITAL SIDRA MEDICAL AND RESEARCH CENTER HEART HOSPITAL AL RUMAILAH HOSPITAL FALCON CLINIC & HOSPITAL WAKRA HOSPITAL QATAR ORTHOPEDIC
	DUKHAN	CUBAN HOSPITAL

Aspetar

Country	City	Name
Saudi-Arabia	Dammam	Maternity and Children Hospital
	Al Khobar	King Fahd Teaching Hospital
	Makkah and Riyadh	King Faisal Hospital
	Najran	Inha University Hospital King Faisal Hospital*
	Riyadh	Prince Sultan Cardiac Center King Saud Bin Abdulaziz University Hospital Princess Noura University Hospital North Riyadh Hospital – 300 Bed* King Khaleed Hospital* Prince Salman Hospital*
	Tabuk	Tabuk Military Hospital*
	Jeddah	King Fahd Hospital*
UAE	ABU DHABI	ETIHAD AIRWAYS EMERGENCY RESPONSE CENTER GDC HOSPITAL AL NOOR HOSPITAL AL RAHBA HOSPITAL SHEIKH KHALIFA MEDICAL CITY
	AL AIN	AL AIN JIMI HOSPITAL TAWAM HOSPITAL
	Dubai	ZAHRA MEDICAL CENTER JALILA CHILDREN SPECIALTY HOSPITAL
	FUJAIRAH	FUJAIRAH HOSPITAL
	SILAA	SILAA COMMUNITY HOSPITAL

AL NOOR HOSPITAL

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Country	City	Name
China	Beijing	Beijing Hospital Peking Union Medical College Hospital Beijing Tongren Hospital Beijing Children's Hospital Beijing Anding Hospital Beijing Shijitan Hospital Peking University Sixth Hospital Beijing Jishuitan Hospital Peking University People's Hospital Peking University First Hospital Beijing Xuanwu Chinese PLA General Hospital The Seventh Medical Center of Chinese PLA General Hospital
	Shanghai	Shanghai Huashan Hospital Shanghai Changzheng Hospital Shanghai Sixth People's Hospital Shanghai Tenth People's Hospital Affiliated Huadong Hospital of Fudan University Affiliated Zhongshan Hospital of Fudan University Obstetrics & Gynecology Hospital of Fudan University The First Affiliated Hospital of Shanghai Jiaotong university School of Medicine Affiliated Tongren Hospital of Shanghai Jiaotong University School of Medicine Affiliated Renji Hospital of Shanghai Jiaotong University School of Medicine Affiliated Ruijin Hospital of Shanghai Jiaotong University School of Medicine

Beijing Union Medical College Hospital

Country	City	Name
	Guangzhou	Guangzhou Center for Respiratory Medicine Guangdong Provincial People's Hospital Guangzhou First People's Hospital The First Affiliated Hospital Sun Yat-sen University SUN YAT-SEN Memorial Hospital The Third Affiliated Hospital of Guangzhou Medical University
	Shijiazhuang	Hebei General Hospital Hebei Chest Hospital The Second Hospital of Hebei Medical University
	Tianjing	Tianjin Medical University Cancer Institute & Hospital Tianjin First Central Hospital Tianjin Medical University General Hospital

Country	City	Name
	Chongqing	Chongqing General Hospital The Second Affiliated Hospital of Chongqing Medical University The First Affiliated Hospital of Chongqing Medical University
	Nanjing	Nanjing Drum Tower Hospital
	Wuxi	Wuxi No.2 People's Hospital
	Huaian	Ha'an Second People's Hospital
	Suzhou	The First Affiliated Hospital of Soochow Univ.
	Jinhua	Jinhua Municipal Central Hospital
	Shaoxing	Shaoxing Second Hospital
	Quzhou	Quzhou Central Hospital
	Hangzhou	The Second Affiliated Hospital of Zhejiang University School of Medicine Sir Run Run Shaw Hospital of Zhejiang University School of Medicine
	Anyang	Anyang People's Hospital
	Xinxiang	The First Affiliated Hospital of Xinxiang Medical University
	Zhengzhou	Henan Provincial People's Hospital Zhengzhou People's Hospital Henan Provincial Orthopedic Hospital The First Affiliated Hospital of Zhengzhou University

Chinese PLA General Hospital

Country	City	Name
	Suining	Suining Central Hospital
	Chengdu	Sichuan Provincial People's Hospital West China Hospital of Sichuan University The General Hospital of Sichuan Petroleum
	Weifang	Weifang People's Hospital
	Yantai	Yantai Yuhuangding Hospital
	Linyi	Linyi People's Hospital
	Jining	Jining No. 1 People's Hospital
	Jinan	Shandong Provincial Hospital Affiliated to Shandong First Medical University Qilu Hospital of Shandong University
	Qingdao	Qingdao Municipal Hospital The Affiliated Hospital of Qingdao University
	Dalian	Affiliated Zhongshan Hospital of Dalian University

Country	City	Name
India	Bengaluru	Bhagwan Mahaveer Jain Hospital
	Bhubaneswar	Apollo Hospital
	Gurgaon	Medanta
	Jammu	Govt. Medical College & Hospital
	Kochi	Lourdes Hospital
	Lucknow	Ram Manohar Lohia
	Mumbai	Asian Heart Institute Harkishan Das Hospital
	Noida	Jaypee Hospital
	Thiruvanathapuram	Regional Cancer Center Hospital
	Thrissur	Govt. Medical College & Hospital
Indonesia	Aceh	RS. Umum Daerah Zaenal Abidin
	di Jogyakarta	Teaching Hospital Universitas Gadjah Mada
	Jakarta	Puri Indah Hospital Dr. Cipto Mangunkusumo Hospital National Brain Center Hospital Cawang Siloam MRCC Hospital Jakarta Heart Center Hospital
	Kalimantan	RS. Umum Daerah Wahab Syahrani
	Palembang	RS. Umum Moh. Husein
	Riau	Eka Hospital Interational Pekanbaru
	Serpong Tangerang	Eka Hospital
	Tangerang	Omni International Hospital Alam Sutera
	Siquirres	CENTRO DE ATENCION INTEGRAL DE SALUD DE SIQUIRRES

Gyeongsang National University Hospital

Country	City	Name
Malaysia	Kuala Lumpur	National Cancer Institute Putrajaya General Hospital of Kuala Lumpur
	Malacca	Melaka Straits Medical Centre
	Pahang	Hospital of Islamic International University
	Sabah	Gleneagles Kota Kinabalu
	Selangor	Medical Centre of Malaya University
Mongolia	Ulaanbaatar	International medical center LLC
Pakistan	Karachi	Sindh Institute of Urology and Transplant
	Karachi	Civil Hospital
Republic of Korea	Cheonan	Cheonan Medical Center
	Chuncheon	Kangwon National University Hospital
	Daejeon	Konyang University Hospital
	Incheon	Inha University Hospital

Country	City	Name
Republic of Korea	Jeonju	Chonbuk National University Hospital
	Seogwipo	Seogwipo Medical Center
	Seoul	Seoul National University Hospital Seoul Metropolitan Government Seoul National University Boramae Medical Center The Catholic University of Korea Seoul St. Mary's Hospital Korea University Medical Center National Medical Center National Police Hospital Korea Institute of Radiological & Medical Sciences
	Wonju	Severance Hospital
Singapore	Singapore	Novena Mount Elisabeth Hospital Khoo Teck Puat Hospital NUH Medical Centre Singapore General Hospital Ng Teng Fong Hospital NUH Hospital
Taiwan	Taichung	China Medical University Hospital
	Tainan	National Cheng Kung University Hospital
	Taipei	Mackay Memorial Hospital Tri-Service General Hospital
Thailand	Bangkok	Siriraj Hospital, Mahidol University Bangkok Hopital Bumrungrad Hospital Vichaiyut Hospital St. Louis Hospital Sukumvit Hospital Huachiaw Hospital Veterans General Hospital Paolo Memorial Sapankaew
	Chiangmai	Bangkok Hospital
	Lampang	Lampang Hospital
	Pnitsanulok	Bangkok Hospital

Bangkok Hospital

Country	City	Name
Vietnam	An Giang Province	An Giang General Hospital
	Binh Duong	My Phuoc General Hospital
	Binh Duong Province	Hanh Phuc Hospital
	Can Tho City	Can Tho General Hospital
	Da Nang	Family Hospital
	Ha Noi	High Tech Center - Viet Duc Hospital
	HCMC	Hoa Lam Shangrila Hospital Fortis Hoan My Phan Xich Long Hospital
	Hue	Phong Dien General Hospital

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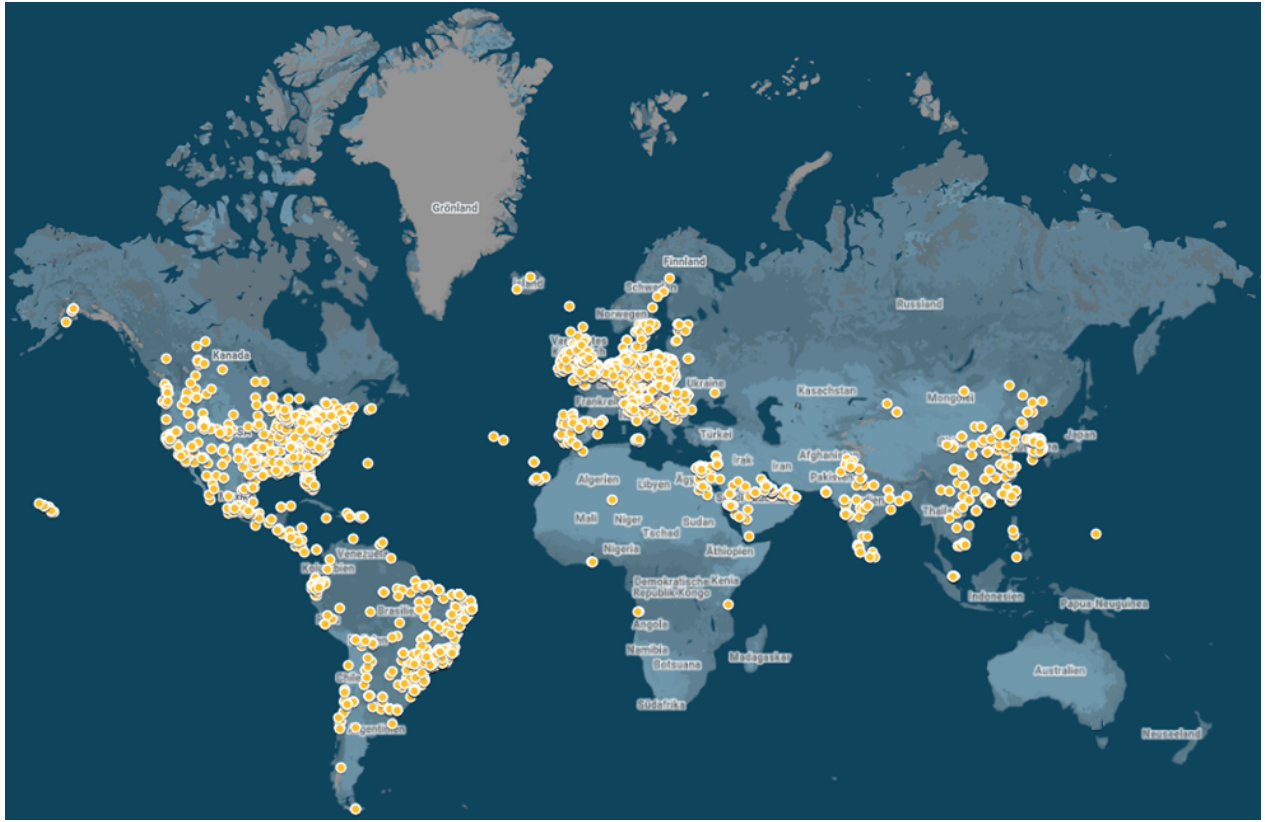
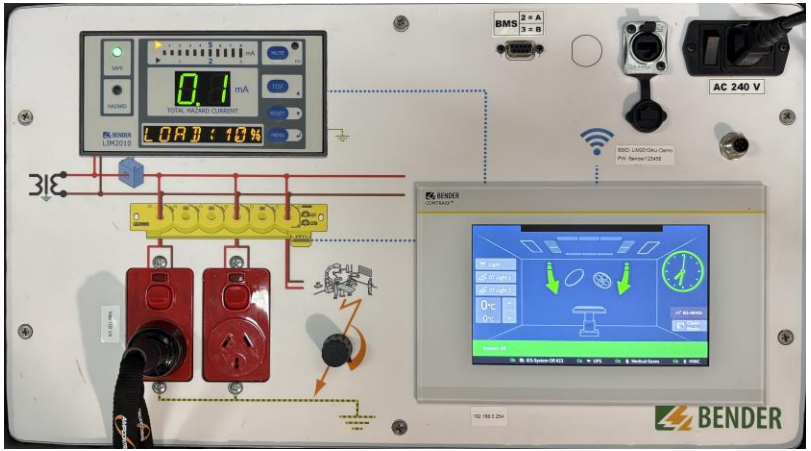
REFERENCE PROJECTS WORLDWIDE

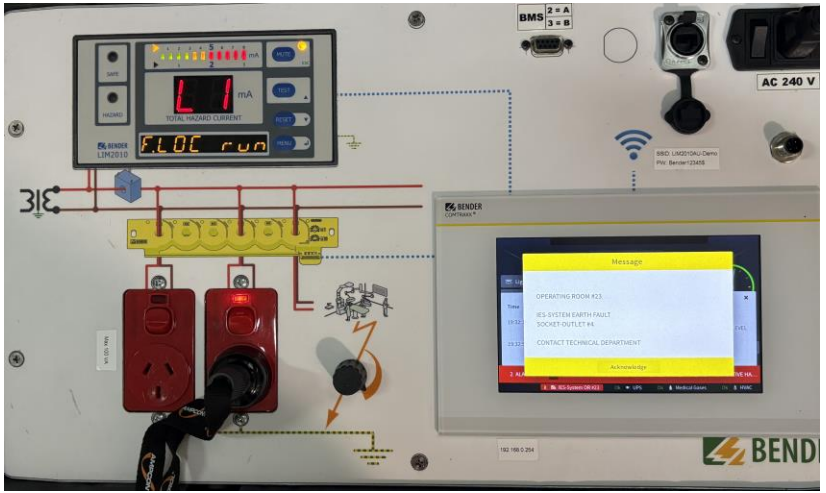


SMART ISOLATED POWER SUPPLY SYSTEMS FOR CRITICAL CARE ARES

- ELECTRCIAL SAFETY IN PATIENT AREAS
- ISOLATED ELECTRICAL SUPPLY SYSTEMS
- SMART ISOLATED POWER SUPPLY SYSTEMS
- **DEMO CASE**

SMART ISOLATED POWER SUPPLY SYSTEMS





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