PHASE PRESENCE INDICATION

LLM

LIVE LINE MONITOR MODULE

CLEAR, RELIABLE LIVE-LINE MONITORING TO HELP KEEP YOUR TEAM SAFE

The LLM Live Line Monitor is a compact, DIN-rail or screw-mounted, low-power device that provides visual indication of load phases being present. The three load phases and earth are connected to the LLM module.

Designed for mining and industrial switchgear, the LLM drives the door-mounted LLD remote display, giving operators clear confirmation of energised or isolated status and reducing risk during switching and lockout procedures.

The LLM is supplied with the LLD remote display and is compliant with AS 2081:2011 for live-line indication in mining applications.

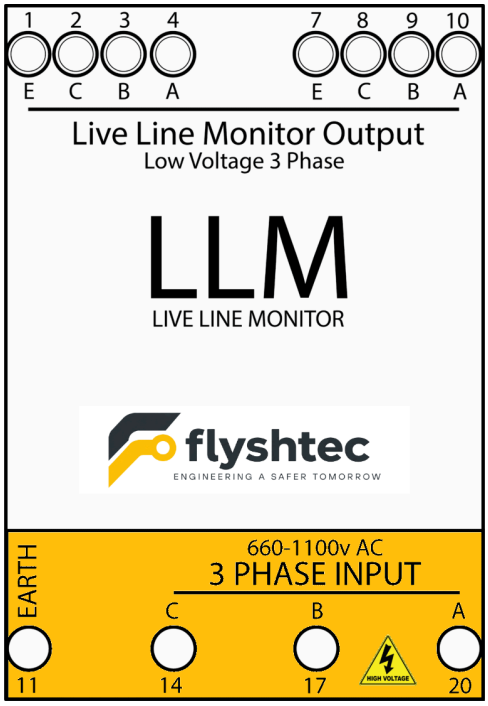

FIG. 1 — LLM MODULE, FRONT VIEW

SUPPLY OPTIONS **375 – 1100 V AC**	POWER **< 2 VA typical**
INDICATION **Dual LEDs per phase**	CONNECTIONS **A, B, C + Earth**

AS 2081:2011 COMPLIANT | DIN-RAIL OR SCREW MOUNT | AUSTRALIAN DESIGNED & SUPPORTED

KEY FEATURES

01 Compact, low-power 3-phase monitor

02 DIN-rail or screw-mount module

03 High-visibility dual LED indicators for each phase

04 ELV-powered remote display for front-panel safety

05 Two remote display output sets (terminals 1 – 4 and 7 – 10)

06 No AC present — all LEDs off; AC present — LEDs on for each energised phase

07 LEDs on when the circuit should be isolated reveal a welded contactor, leakage or isolation failure

08 Robust, mining-grade design

KEY BENEFITS

IMMEDIATE CLARITY

Operators confirm live or isolated status before switching or opening the enclosure.

OPERATOR SAFETY

The door-mounted display carries extra-low voltage only — no hazardous voltage at the panel face.

FAULT REVEALING

Indication during an intended isolation exposes welded contactors and isolation failures.

SIMPLE TO FIT

Four input connections, DIN-rail or screw mounting, and a dedicated display output.

APPLICATIONS

SWG	LW	OEM	MCC	FP	DR
Underground & surface switchgear	Longwall, conveyor & pump starters	OEM enclosures	MCC panels	Fixed plant	Operator-door indication

TERMINAL LAYOUT & FRONT PANEL

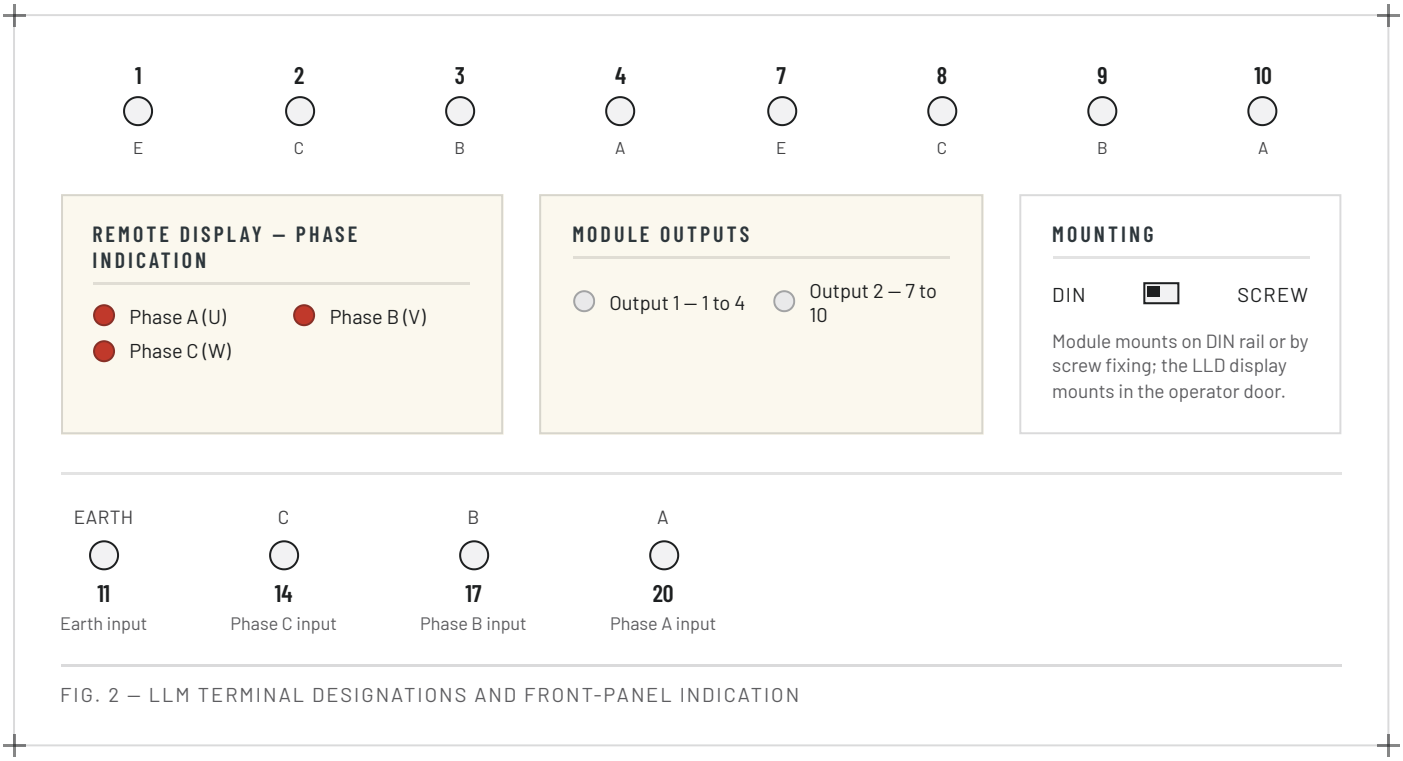

FIG. 2 — LLM TERMINAL DESIGNATIONS AND FRONT-PANEL INDICATION

INDICATION

Phase A (U)	Dual LEDs — phase A energised
Phase B (V)	Dual LEDs — phase B energised
Phase C (W)	Dual LEDs — phase C energised
All off	No AC present — circuit isolated
Any on	Circuit is live — do not access
On when isolated	Welded contactor, leakage or isolation failure

CONTROL SETTINGS

Normal operation	LEDs follow phase presence; all off confirms no AC present
Fault indication	LEDs on during an intended isolation signal a switchgear fault
Remote display	Door-mounted LLD with extra-low-voltage signalling
Environment	Operating 0 – 60 °C, humidity 0 – 95% non-condensing

INSTALLATION NOTES

01 Phase and earth inputs connect directly to the monitored circuit — isolate before wiring.

02 Phase inputs: A to terminal 20, B to 17, C to 14; earth to terminal 11.

03 Indication is a safety aid and does not replace approved isolation and testing procedures.

04 All connections must comply with the requirements of AS 2081.

05 Order the LLM to match the system voltage — 375 – 635 V AC or 660 – 1100 V AC.

TERMINAL FUNCTIONS

NO.	TERMINAL	FUNCTION
1	**E**	Display output 1, earth
2	**C**	Display output 1, phase C
3	**B**	Display output 1, phase B
4	**A**	Display output 1, phase A
7	**E**	Display output 2, earth
8	**C**	Display output 2, phase C
9	**B**	Display output 2, phase B
10	**A**	Display output 2, phase A
11	**Earth**	Earth input
14	**C**	Phase C input
17	**B**	Phase B input
20	**A**	Phase A input

DIMENSIONS & ENCLOSURE

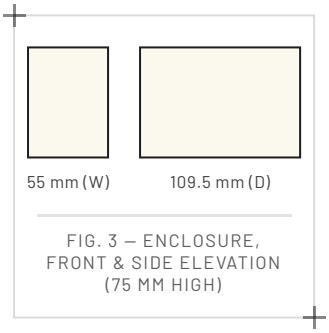

FIG. 3 — ENCLOSURE, FRONT & SIDE ELEVATION (75 MM HIGH)

Dimensions	55 mm (W) × 75 mm (H) × 109.5 mm (D)
Material	High-impact polycarbonate
Mounting	DIN rail or screw mount
Terminals	Cage screw terminals

SPECIFICATIONS

SUPPLY

MODEL	MIN	TYP	MAX	UNIT
A01247	375	415	635	V AC
A00971	660	1000	1100	V AC

Power consumption	Less than 2 VA (typical)
Operating temperature	0 – 60 °C
Humidity	0 – 95%, non-condensing
Indication	Dual high-visibility LEDs per phase
Remote display	Door-mounted LLD, extra-low-voltage signalling
Connections	Phases A, B, C and earth; remote display terminals
Mounting	DIN rail or screw mount

ORDERING INFORMATION

PART NO.	DESCRIPTION
A01247	LLM 375 – 635 V AC with LLD remote display
A00971	LLM 660 – 1100 V AC with LLD remote display
A00739	LLD remote display — spare / replacement

Supplied with: LLM module, LLD remote display and instruction sheet.

STANDARDS & COMPLIANCE

AS 2081:2011 — Relevant live-line indication requirements

AS/NZS & IEC — Manufactured to the applicable standards

Application — Mining and industrial electrical protection systems

FLYSHTEC

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+61 435 939 513
info@flyshtec.com.au
www.flyshtec.com.au

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0468 344 220
richard@dejongindustrialsystems.com.au
www.dejongindustrialsystems.com.au