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Find the *Scientific Technology Incorporated SR05A* at our website: *Click HERE*

SCIENTIFIC TECHNOLOGIES INC.

SR05A

Monitoring Safety Relay For Interlock Switches And Emergency Stop Devices.

Relais-Sicherheitsbaustein für Sicherheitsschalter und NOT-AUS-Befehlsgeräte.

Relais de securite pour interverrouillages et arrets d urgence.

Operating Instructions for SR05A Safety Monitoring Relay

INSTALLATION INSTRUCTIONS / MONTAGEANLEITUNG / NOTICE D'INSTALLATION

The unit has a single channel input operation and requires a supply voltage applied via the safety device to operate this relay unit and gives three volt free outputs, plus one auxiliary for control indication.

Das Gerät ist für 1-kanaligen Eingang ausgelegt; die Versorgungsspannung wird über den Sicherheitskontakt zugeführt. Es stehen 3 potentialfreie Schließer- und 1 Öffnerkontakt für Meldezwecke zur Verfügung.

Ce bloc logique possède un seul canal d'entrée et reçoit son alimentation via un appareil de sécurité. Après réarmement et tests, il délivre 3 contacts de sécurité libres de potentiel et un contact auxiliaire destiné à la signalisation ou au renseignement des automatismes.

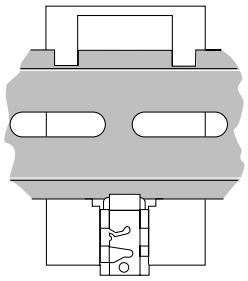
NOTE: Follow steps 1 to 6 for correct installation. All work should be carried out by suitable competent personnel.
ANMERKUNG: Zwecks korrekter Installation Schritte 1 bis 6 abarbeiten. Alle Arbeiten sind von qualifiziertem Elektro-Personal auszuführen.
NOTE: Suivre les étapes 1 à 6 pour une installation correcte. Cette installation doit être sous la responsabillité d'une personne compétente.

1 Isolate power.
Spannung abschalten.
Isoler les alimentations.

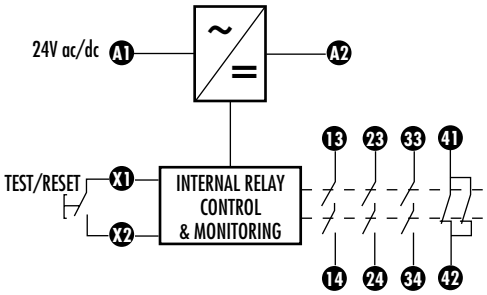
2 Mount on 35mm DIN rail.
Auf 35mm-Normschiene anbringen.
Montage sur rail DIN 35mm.

3 Mount in enclosure to a min of IP 54.
In Gehäuse mit mind. IP 54 anbringen.
A monter dans coffret minimum IP 54.

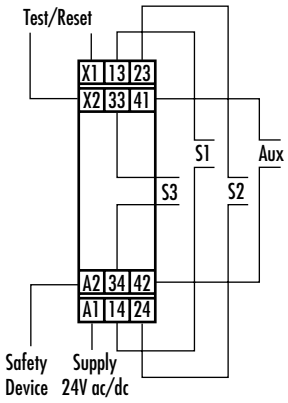
Back View / Rückansicht / Vue arrière



4 Internal Circuit / Innenschaltbild / Circuit interne



5 Wiring Connection / Verdrahtung / Raccordements



The contacts shown at "TEST" can be the normally closed uncommitted auxiliary contacts of the machines primary control elements (or contactors). Thus providing monitoring of the contactor condition. The safety output circuits are used to control switching devices (eg contactors) which prevent hazardous machine functions. The safety output circuits should be overload protected and suppressed.

Der bei "TEST" gezeigte Kontakt kann der öffner-/Hilfskontakt des Hauptschützes des Maschinenantriebs sein. Dadurch wird der Zustand des Schützes überwacht. Die Freigabekreise werden zum Ansteuern von Schaltgeräten benutzt (z.B. Schütze), welche gefahrbringende Maschinenfunktionen verhindern. Die Freigabekreise sind gegen Überlast und Spannungsspitzen zu schützen.

Le circuit « Test », ou boucle de retour, doit être raccordé à des contacts auxiliaires normalement fermés d'éléments primaires de contrôle (par exemple des contacteurs de puissance). Ce câblage permet la surveillance de l'état des contacteurs. Les sorties de sécurité sont destinés à l'arrêt des fonctions à risque de la machine. Les sorties de sécurité doivent être protégées contre les surcharges et les parasites (circuit RC).

6

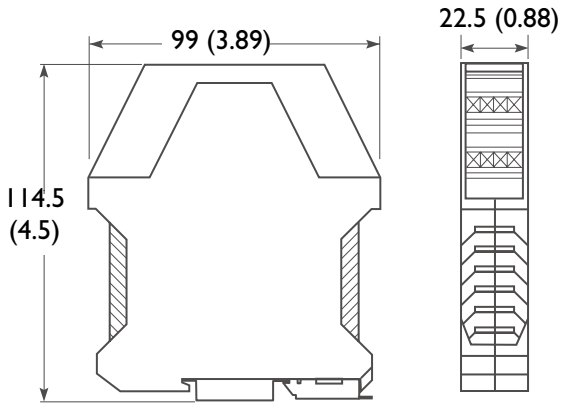
Connect power - Check for correct operation before allowing operator use.
Spannung anschließen. vor Inbetriebnahme auf korrekte Funktion überprüfen.
Connectez l'alimentation - Contrôlez le bon fonctionnement des sécurités avant la mise en service pour la protection des opérateurs.

In the event of an internal fault the unit must be returned to STI for repair.

Bei einem internen Fehler muß das Gerät zur Reparatur an STI zurückgeschickt werden.

En cas de panne interne, demander un formulaire de retour à STI puis retourner l'appareil pour réparation.

Dimensions - mm (in)



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TECHNICAL SPECIFICATIONS

Conforms to:	EN 60204, BS EN 292.
Power supply:	24V AC / DC
Power consumpion:	<2 VA.
X1-X2 Contactor monitor loop:	N/C contactor loop.
Max. input wire resistance at nominal voltage:	200 ohm.
Relay outputs:	3 N/O and 1 N/C. TUV approved.
Utilisation Cat. (AC):	4 A /250 VAC / 1000 VA at COSØ = 1.
Max. switched DC current voltage:	2 A / 30 VDC / 60 W.
Min. switched current/voltage:	10 mA / 10 V.
Max. output fuse:	5 A Quick acting.
Indication LED 1:	Green = Outputs closed.
Max. drop out time:	24VDC: 190 mSec., 24VAC: 230 mSec.
Impulse withstand voltage:	2500 V.
Operating Temperature:	-10 C to +55 C.
Contamination level:	III.
Humidity:	90 % at +50 C.
Degree of Enclosure protection:	IP 40 DIN 0470.
Terminal isolation:	IP 20 DIN 0470.
Conductor size:	0.2 - 4mm² (24 - 12AWG)
Weight:	197g.
Case Material:	Polyamide PA 6.6
Housing:	D=99 H=114.5 W=22.5mm.
Installation group:	C in accordance with VDE 0110.
Fixing details:	35mm DIN Rail.

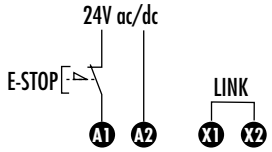
TECHNISCHE DATEN

Genügt den Normen:	DIN EN 60204, DIN EN 292
Betriebsspannung:	24V AC / DC
Leistungsverbrauch:	< 2 VA
X1-X2 Schützmonitorschleife:	Ruhekontakt, Schützschleife
Max. Eingangswiderstand bei Nennspannung:	200 Ohm
Relaisausgänge:	3 Arbeitskontakte und 1 Ruhekontakt. TÜV zugelassen
Nutzungskategorie (AC):	4 A/250 V AC / 1000 VA bei COSØ = 1
Geschalteter DC-Strom/Spannung:	max. 2 A / 30 V DC / 60 W
Geschalteter Strom/Spannung:	min. 10 mA / 10 V
Ausgangssicherung:	max. 5 A Schnellschluss
LED-Anzeiger 1:	grün = Ausgänge geschlossen
max. Rückfallzeit:	24VDC: 190 mSec., 24VAC: 230 mSec.
Impulswiderstandsspannung:	2500 V
Betriebstemperatur:	-10 C bis + 55 C
Verschmutzungsgrad:	III
Luftfeuchtigkeit:	90% bei + 50 C
Gehäuseschutz:	IP 40 DIN 0470
Klemmenisolierung:	IP 20 DIN 0470
Leiterabmessung:	0,2 - 4mm² (24 - 12AWG)
Gewicht:	197g
Gehäusematerial:	Polyamid PA 6,6
Gehäuse:	t = 99 h = 114,5 b = 22,5 mm
Installationsgruppe:	C nach VDE 0110
Montage:	35 mm DIN-Schiene

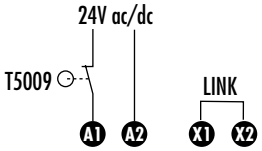
SPECIFICATIONS TECHNIQUES

Conforme aux normes:	EN 60204, EN292.
Alimentation:	24V AC / DC
Consommation:	< 2 VA.
Boucle de retour X1-X2:	Boucle N/C.
Résistance Max. Des câbles des canaux d'entrée:	200 ohms.
Relais de sorties:	3 N/O & 1 N/C approuvé TUV.
Catégorie d'utilisation (AC):	4A/ 250 VAC / 1000 VA à CosØ = 1.
Coupure Max. En courant continu:	2A / 30 VDC / 60 W.
Coupure Min. Courant / tension:	10 mA / 10V.
Fusible sortie Max.:	5 A action rapide.
Indication LED 1:	Vert = sorties fermées.
Temps de réponse Max:	24VDC: 190 mSec., 24VAC: 230 mSec.
Résistance tension:	Impulsions 2500V.
Température d'utilisation:	-10 C à + 55 C.
Niveau de contamination:	III.
Humidité:	90% à + 55 C.
Indice de protection du boîtier:	IP 40 DIN 0470.
Indice de protection des bornes:	IP 20 DIN 0470.
Diam. Des conducteurs:	0.2 - 4mm² (24 - 12AWG)
Poids:	197 grs.
Matériel et couleur:	Polycarbonate rouge.
Boîtier:	P=99 / H= 114.5 / L=22.5 mm.
Groupe d'installation:	C en accord avec VDE 0110.
Fixation:	Rail DIN 35mm.

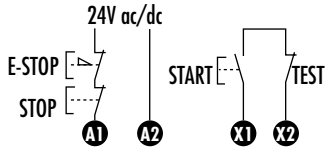
Application Examples (Input connections only shown) / **Anwendungsbeispiele** (nur Anschlüsse dargestellt) / **Exemples d'applications** (Seules les entrées sont représentées)



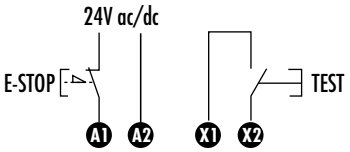
Emergency Stop with automatic resetting.
NOT-AUS mit automatischem Reset.
Arrêt d'urgence avec réarmement automatique.



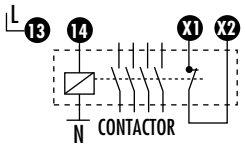
Guard door interlock with automatic resetting.
Schutztürüberwachung mit automtischem Reset.
Interverrouillage avec réarmement automatique.



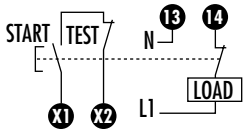
SR05A as an emergency stop control relay and restart interlock.
SR05A als NOT-AUS-Steuerbaustein mit Verhinderung des automatischen Wiederanlaufs.
SR05A utilisé comme relais d'arrêt d'urgence et réarmé par interverrouillage.



Emergency Stop connected direct to the supply. With resetting facility.
NOT-AUS-Befehlsgerät direkt mit Betriebsspannung verbunden, mit Reset-Funktion
Arrêt d'urgence connecté directement à l'alimentation avec réarmement.



Controlled monitoring of external contactor, relay or valve.
Gesteuerte Überwachung externer Schütze, Relais oder Ventile.
Contrôle extérieur d'un contacteur, d'un relais ou d'une vanne.



Monitoring to ensure that the ON button cannot stick in the pressed condition.
Überwachung auf Klemmen des EIN-Tasters in gedrückter Stellung.
Contrôle pour s'assurer que le bouton start ne reste pas collé appuyé.

NOTE: For full system dual channel monitored reset and/or 110/220V requirements, please ask for details on the STI SR06AM, SR11M, and SR12A

Anmerkung: Wenn Sie ein komplett zweikanalig überwachtes Gerät und/oder 110/230 V benötigen, setzen Sie bitte die STI SR06AM, SR11M oder SR12A ein.
Die Versorgungsspannung muß den Anforderungen der DIN EN 60204/DIN VDE 0113 Teil 1 entsprechen. Der Anschluß A2 muß an die mit dem Schutzleitersystem verbundene Seite des Steuerstromkreises angeschlossen werden.

NOTE: Pour les blocs logiques à deux canaux et/ou 110/220V, demander les informations à STI sur les appareils SR06AM, SR11M & SR12A.

INFORMATION IN REGARD TO UL508
Terminal block tightening torque 7in/lbs.
Use copper conductors only.
When used in elevated ambients, temperature rating of field wiring shall not be less than ambient. Use only one conduit entrance for field connections.
Electrical spec of rating code A300 same polarity per pole.
Max current: 120V AC - make 60A, break 6A.
240V AC - make 30A, break 3A.
Max. V/A: make 7200, break 720.

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CE Declaration of Conformity / Konformitätserklärung / Déclaration de conformité

This is to declare that the SR05A conforms with the Essential Health & Safety Requirements (EHSR's) of the European Machinery Directive (98/37/EC), the relevant requirements of the Low Voltage Directive (73/23/EEC as amended by 93/68 EEC). The SR05A also conforms to EN 60947-5-1, EN 1088, EN 292, EN 60204-1 and is Third Party Approved by UL and BG

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Scientific Technologies Incorporated

EC Declaration of Conformity

Scientific Technologies Incorporated (at 6550 Dumbarton Circle, Fremont, CA 94555-3611, U.S.A.) hereby declares that the products listed below are in conformity with the relevant provisions of the following EC Directive(s) when installed in accordance with the installation instructions contained in the product documentation: 73/23/EEC - Low Voltage Directive (as amended by 93/68/EEC), 98/37/EC - Machine Safety Directive, and 89/336/EEC - EMC Directive (as amended by 92/31/EEC and 93/68/EEC),

SR05A, SR06AM, SR07P, SR08A, SR09A, SR10MD, SR11M, SR12A, SR14A, SR15AD, SR16AM.

and comply with the provisions of the following harmonized standards:

EN 60204-1 : 1997 - Safety of machinery - Electrical equipment of machines, Part 1: General requirements.

EN 954-1 : 1996 - Safety of Machinery – Safety related parts of control systems – Part 1: General principles for design.

EN 292-1 : 1991 - Safety of machinery; Basic concepts, general principles for design – Part 1: Basic terminology, methodology.

EN 50081-2 : 1993 - Electromagnetic compatibility - Generic emission standard - Part 2: Industrial environment.

EN 61000-6-2 : 1999 - Electromagnetic compatibility (EMC) – Part 6-2: Generic standards - Immunity for industrial environments.

Signed _____ Date 20 Oct 2005

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